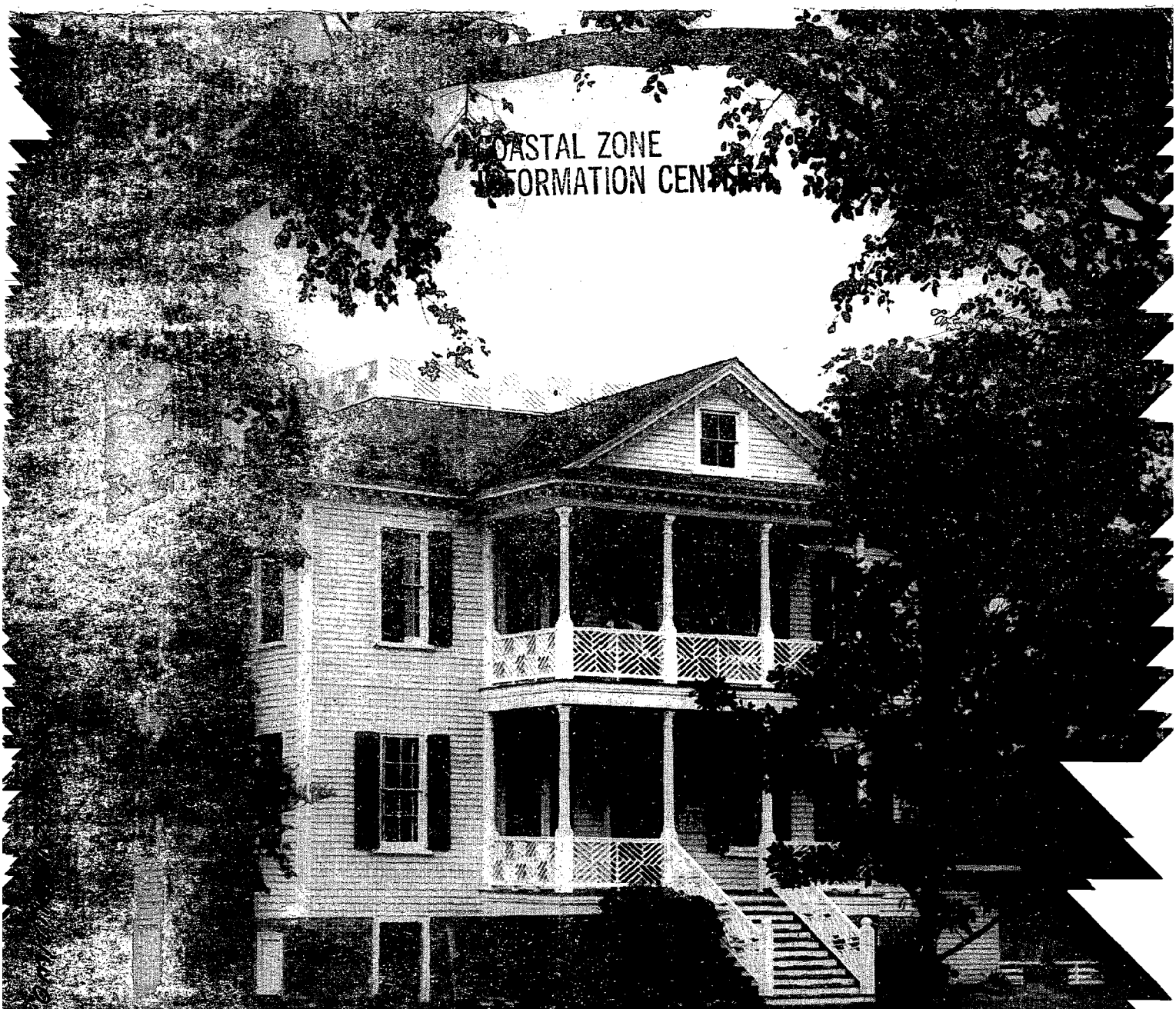

LAND DEVELOPMENT PLAN

BERTIE COUNTY

1976

CAMA

THIS REPORT HAS BEEN PREPARED FOR THE RESIDENTS OF

BERTIE COUNTY, NORTH CAROLINA

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I. INTRODUCTION

This document, the Bertie County Coastal Area Management Act Land Use Plan, is the result of almost two years of intensive effort on the part of many people in Bertie County. The plan was initiated in response to the North Carolina Coastal Area Management Act passed by the 1974 General Assembly.

The Coastal Area Management Act (CAMA) established a cooperative program of land use management between local and state governments. The goals of the act were:

1) To provide a management system capable of preserving and managing the environmentally sensitive areas;
2) To ensure that development in the coastal area proceeds in an orderly manner; and
3) To provide a balance between the use and preservation of our coastal resources.

Under the Act local governments are responsible for developing local land use plans which reflect the public's desires concerning local growth and development. The Coastal Resources Commission (CRC) was established by the Act to oversee the development of local land use plans. The CRC was also given the responsibility of designating Areas of Environmental Concern (AEC), which are to receive special attention from both the local governments and the CRC.

This document represents Bertie County's efforts to comply with the requirements of the Act. It is written in accordance with the "State Guidelines For Local Planning In The Coastal Area Under The Coastal Area Management Act of 1974." These guidelines were prepared by the CRC and adopted on January 27, 1975, amended October 15, 1975.

The plan will serve as a "blueprint" for future development in Bertie County. It identifies major land use issues facing Bertie County and offers a course of action to deal with these issues in a manner that the people of the county desire.

Almost all of the goals and objectives in this plan represent a concensus of opinion among the people of the county. They must utilize this plan in their day-to-day decision-making. If this is accomplished, then the aims of this plan will be realized.

II. DESCRIPTION OF PRESENT CONDITIONS

A. POPULATION AND ECONOMY

POPULATION

Bertie County has been experiencing population loss since 1950 (Table 1). This outmigration can be attributed to, first, a national trend of migration from rural areas to urban areas, and, secondly, a change in the agricultural practices which reduced the labor demand for agricultural workers.

Tables 2 and 3 examine population shifts between 1960 and 1970 for townships and municipalities. Note that while Windsor township lost population during the decade, the Town of Windsor gained in population. Askewville, which is in Windsor Township, also gained population. The Town of Colerain also gained in population while Colerain Township lost. This would indicate that migration is occurring within the County, with the rural areas losing population and towns gaining in population.

Generally those who migrate from one area to another are the young, the better educated and the economically disadvantaged. Each of these groups are seeking opportunities which they perceive as not existing in their native area. This has implication for service offered by local government. First, demand for facilities and services for the elderly will increase. Secondly, fewer children will be attending County schools. Other services, such as recreation, will be affected by these population changes. Table 4 examines population change by age group and race.

A. POPULATION AND ECONOMY

POPULATION

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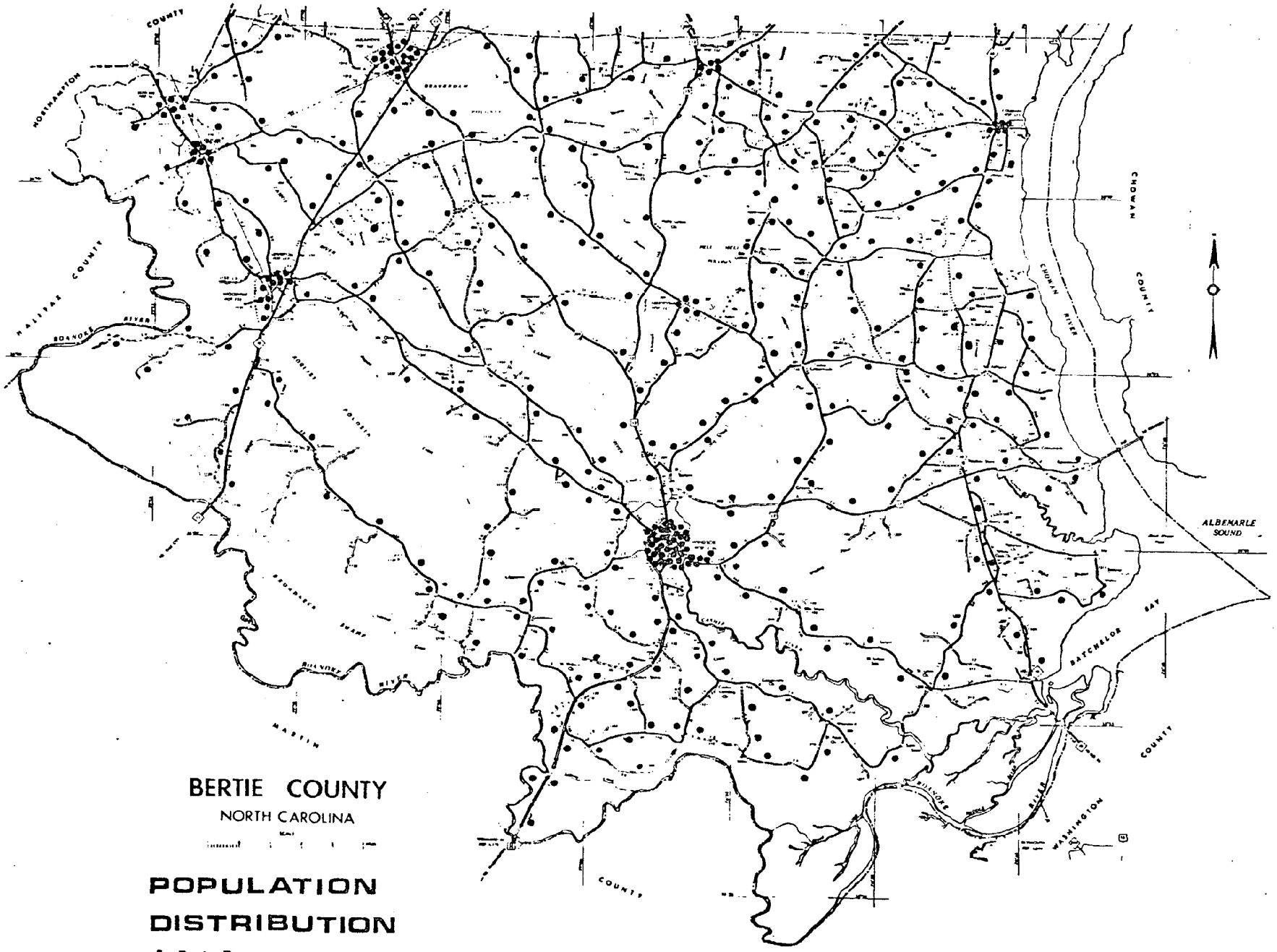

BERTIE COUNTY
NORTH CAROLINA
POPULATION
DISTRIBUTION
1 Dot Represents 50 People
MAY 1976
MAP 1
ALBEMARLE SOUND
CHOWAN COUNTY
CHOWAN RIVER
ROANOKE RIVER
HALIFAX COUNTY
NORTHAMPTON COUNTY
MARTIN COUNTY
WASHINGTON COUNTY
WASHINGTON
ROANOKE
BATCHELOR BAY

Table 1

POPULATION TRENDS

BERTIE COUNTY

1940 - 1970

YEAR	COUNTY	NUMBER CHANGE
1940	26,201	--
1950	26,439	238
1960	24,350	-2,089
1970	20,528	-3,822

Source: U. S. Census of Population, 1960 and 1970

TABLE 2

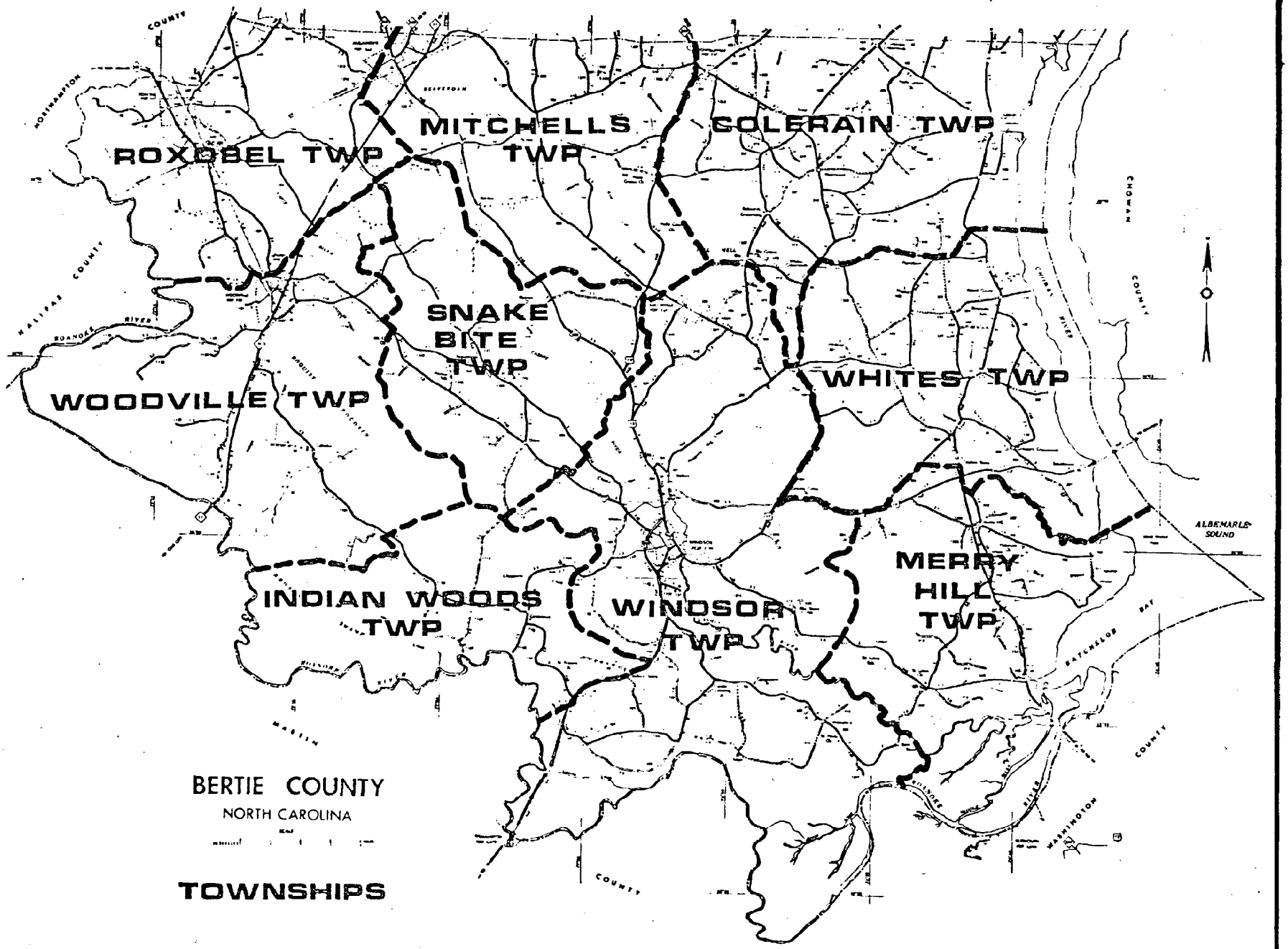
SUMMARY OF POPULATION TRENDS

BERTIE COUNTY AND TOWNSHIPS

1960 and 1970

	1960	1970	Change: 1960 - 1970 Number	Percent
BERTIE COUNTY	24,350	20,528	-3,822	- 15.6
Colerain	4,756	4,069	- 687	- 14.4
Indian Woods	1,183	874	- 309	- 26.1
Merry Hill	1,242	630	- 612	- 49.2
Mitchells	2,860	2,373	- 487	- 17.0
Roxobel	2,256	1,871	- 385	- 17.0
Snakebite	1,206	1,036	- 170	- 14.0
Whites	2,029	2,006	- 23	- 1.1
Windsor	6,893	6,141	- 752	- 10.9
Woodville	1,925	1,528	- 397	- 20.6

Source: U. S. Census of Population, 1970


ROXOBEL TWP
MITCHELLS TWP
COLERAIN TWP
SNAKE BITE TWP
WOODVILLE TWP
WHITES TWP
INDIAN WOODS TWP
WINDSOR TWP
MERRY HILL TWP
BERTIE COUNTY
NORTH CAROLINA
TOWNSHIPS

MAP 2

TABLE 3

POPULATION TRENDS

SELECTED PLACES

BERTIE COUNTY

1960 and 1970

Place	1960 Population	1970 Population	Change: 1960 - 1970 Number	Percent
Colerain	340	373	33	9.7
Powellsville	259	247	-12	-4.6
Aulander	1,083	947	-136	-12.5
Kelford	362	295	-67	-18.5
Roxobel	452	347	-105	-23.2
Askewville	195	247	52	26.7
Windsor	1,813	2,199	386	21.3
Lewiston	360	327	-33	-9.2
Woodville	344	253	-91	-26.5

Source: U. S. Census of Population, 1970

TABLE 4

POPULATION CHANGE BY AGE GROUP AND RACE

BERTIE COUNTY

1960 - 1970

Age Group	1960 White	1960 Nonwhite	1970 White	1970 Nonwhite	Change: 1960 - 1970 Number White	Number Nonwhite	Percent White	Percent Nonwhite
All	9,897	14,453	8,913	11,615	984	2,838	9.9	19.6
Under 5	814	2,321	557	1,169	-257	-1,152	-31.5	-49.6
5 to 9	965	2,222	678	1,531	-287	- 691	-29.7	-31.0
10 to 14	1,031	1,992	764	1,763	-267	- 229	-25.8	-11.4
15 to 19	830	1,492	822	1,493	- 8	1	- 0.9	-29.5
20 to 29	1,035	1,440	1,032	1,014	- 3	- 426	- 0.2	-29.5
30 to 44	1,882	2,190	1,434	1.603	-448	- 587	-23.8	-26.8
45 to 59	1,785	1,594	1,856	1,676	71	82	3.9	5.1
60 to 64	465	345	559	441	94	96	20.2	27.8
65 and Over	1,090	857	1,211	925	121	68	11.1	7.9

Source: U. S. Census of Population, 1960 and 1970

BERTIE COUNTY SCHOOL ENROLLMENT

From 1960 to 1970 Bertie County has shown a decrease in total school enrollment. Table 5 shows that in 1960, 1,358 persons were enrolled in high school as compared to 1,809 in 1970. This represents a 33 percent change in high school enrollment. The total number of persons enrolled in college rose from 25 in 1960 to 45 in 1970, representing an 80 percent change. Overall, the substantial decrease in total school enrollment can be paralleled with total county population decline.

Traditionally, completion of school has been low in rural southern communities. From all indications, over the past ten years, education has become more important to the citizens of Bertie County. As shown in Tables 6 and 7 the number of individuals with no school years completed has declined. Comparing the figures under the headings High School and College, generally one concludes that there has been a trend toward higher education in Bertie County.

Table 7 looks at years of school completed by sex.

Table 8 eradicates the educational attainment in Bertie County. The largest number of students graduated in 1969 and 1971. In 1969, over 50 percent of the total number of graduates in Bertie County continued their education. Of the school years surveyed, 1973 was the only year that less than half the County's high school graduates did not continue their education.

TABLE 5

SCHOOL ENROLLMENT

BERTIE COUNTY

1960 and 1970

	1960	1970	Change: 1960 and 1970 Number	Percent
Total Enrolled	6,600	6,211	449	6.0
Kindergarten	44	242	198	450
Elementary	5,233	4,115	1,118	21.0
High School	1,358	1,809	451	33.0
College	25	45	20	80.0

Source: U. S. Census of Population, 1960 and 1970.

TABLE 6

YEARS OF SCHOOL COMPLETED BY SEX

BERTIE COUNTY

1960 and 1970

	1960	1970	Number Change	Percent Change
Male, 25 years old and over	5,385	4,902	483	8.9
No School years completed	219	295	76	34.7
Elementary: 1 to 4 years	1,493	992	501	33.5
5 to 8 years	2,198	1,779	419	19.0
High School: 1 to 3 years	670	848	178	26.5
4 years or more	419	574	155	36.9
College: 1 to 3 years	252	215	37	14.6
4 or more	134	199	65	48.5
Median School Years Completed	6.8	7.4	.6	8.8
Female, 25 years and over	5,959	5,701	258	4.3
No School Years Completed	135	129	6	4.4
Elementary: 1 to 4 years	749	505	244	32.5
5 to 8 years	2,406	2,029	377	15.6
High School: 1 to 3 years	996	1,476	480	48.1
4 years or more	982	914	68	6.9
College: 1 to 3 years	415	295	120	28.9
4 or more	276	353	77	27.8
Median School Years Completed	8.5	9.4	.9	10.5

Source: U. S. Census of Population

TABLE 7

YEARS OF SCHOOL COMPLETED

BERTIE COUNTY

1960 and 1970

Total	1960	1970	Number change	Percent change
Male and Female, 25 yrs. & over	11,344	10,603	741	6.0
No. School years completed	354	424	70	19.0
Elementary: 1 to 4 years	2,242	1,497	745	33.0
5 to 8 years	4,604	3,808	796	17.1
High School: 1 to 3 years	1,666	2,324	658	39.4
4 years or more	1,401	1,488	87	6.2
College: 1 to 3 years	667	510	157	23.5
4 or more	410	552	142	34.6

Source: U. S. Census of population, 1960 and 1970.

TABLE 8

SURVEY OF HIGH SCHOOL GRADUATES

BERTIE COUNTY

1969 - 1973

Years	Number Of Graduates	Enrolled In Senior College		Enrolled In Junior Colleges		Enrolled In Trade Business and Nursing Schools		Entered Military Service		Number Gainfully Employed		All Other	
		#	%	#	%	#	%	#	%	#	%	#	%
1969	344	61	17.7	21	6.1	103	29.9	30	8.7	106	30.8	23	6.8
1970	311	55	17.7	16	5.1	115	37.0	7	2.2	97	31.2	21	6.8
1971	341	62	18.2	25	7.3	98	28.7	16	4.7	119	34.9	21	6.2
1972	316	60	19.0	19	6.0	90	28.4	10	3.2	121	28.3	16	5.1
1973	333	63	18.9	87	26.1	9	2.7	25	7.5	149	44.8	-	-

Source: N. C. Department of Public Education, Surveys of High School Graduates, 1969 - 1973.

EDUCATIONAL ATTAINMENT OF THE NONWHITE POPULATION

The nonwhite population school enrollment has declined with the overall county's total school enrollment decline. In 1960, there were 4,418 nonwhites enrolled in Bertie County schools. By 1970 the number of students had declined by 111. The most significant change occurred in the number enrolled in high schools, a 44 percent change. The most noteworthy change is found in the number enrolled in college. In 1960 there were 14 nonwhites in college as compared to NONE in 1970. (See Table 9)

Table 10 shows the nonwhite population years of school completed in Bertie County. During the 1960 - 1970 decade, Bertie County experienced an increase in the number of nonwhites with no school years completed, a 25 percent change. From all indications, the nonwhite population is lowest in educational and income attainment in Bertie County.

TABLE 9

NONWHITE POPULATION SCHOOL ENROLLMENT
BERTIE COUNTY
1960 and 1970

	1960	1970	Number Change	Percent Change
TOTAL ENROLLED	4,418	4,307	- 111	- 2.0
KINDERGARTEN	24	182	158	658
ELEMENTARY	3,583	2,976	607	16.0
HIGH SCHOOL	797	1,149	352	44.0
COLLEGE	14	0	- 14	-100

Source: U. S. Census of Population, 1960 and 1970.

TABLE 10

NONWHITE POPULATION YEARS OF SCHOOL COMPLETED

BERTIE COUNTY

1960 and 1970

	1960	1970	Number Change	Percent Change
Males and Females, 25 years old and over	5,632	5,080	- 552	- 9.0
No School years completed	258	325	67	25.0
Elementary: 1 to 4	1,626	1,047	579	35.0
5 to 8	2,415	2,010	405	16.0
High School: 1 to 3	743	1,007	264	35.0
4 or more	377	424	47	12.0
College: 1 to 3	80	80	0	0
4 or more	133	187	54	40.0
Median School Years Completed	6.6	7.0		

Source: U. S. Census of Population, 1960 and 1970.

ECONOMY

A definitive analysis of Bertie County's economy is beyond the scope of this study. This section will attempt to provide an economic overview and framework of Bertie County to be used by local decision makers.

The past two decades have witnessed a profound change in the agricultural practices in the United States. Farming has become increasingly mechanized, creating a trend toward fewer, but larger, farms and fewer workers needed to produce equal or greater yields. This change in agricultural practices has had a tremendous impact upon Bertie County.

In 1962, 49.7% of Bertie's civilian work force and 54.3% of the County's employed were engaged in agricultural employment. During the ten year period between 1962 and 1972, Bertie County lost 1,630 agricultural jobs (31.5% of the civilian work force). As Table 17 shows, their loss in agricultural jobs outstripped job gains made in other sections of the economy.

One method of analysis of the work force estimates for counties is to divide the activities reported into basic and non-basic activities. Basic activities are defined as those which export goods and services outside of the County. In exporting goods and services, these activities inject outside money into the local economy. This "outside" money has a multiplier effect, in that it supports other non-basic activities within the County. The non-basic activities are defined as those which provide goods and services for consumption within the County.

An example of the basic and non-basic activities defined above might be provided by a peanut farmer in Bertie County. The farmer raises a crop of peanuts which he sells for consumption outside the County. The farmer's activities are basic. With the money the farmer receives, he purchases items for his family, pays taxes which are used to educate his children and disposes of his "outside" money in other ways. The merchants who sell the farmer items,

the teacher who teaches his children and others who provide other goods and services are engaged in non-basic activities.

TABLE 11

BERTIE COUNTY
WORK FORCE ESTIMATES
1962, 1967 and 1972

	1962	1967	1972	Net Change 1962-1972 (+ or -)
Civilian Work Force	7840	7190	7210	-630
Unemployment, Total	660	430	520	-140
Rate of Unemploy.	8.4	6.0	7.2	-1.2
Employment, Total	7180	6760	6690	-490
Non Ag. Wage and Salary Employ.	2490	3060	3480	+930
Manufacturing[1]	990	1190	1510	+520
Non Mgs.[2]	1500	1870	1970	+470
All other Non Ag. Employ.	790	860	940	+150
Ag. Employment	3900	2840	2270	-1630

[1]Includes: Food; lumber and wood; tobacco; apparel; printing; stone; clay and glass; and non-electrical machinery.

[2]Includes: Construction; transportation, communication & public utilities; trade; financial, insurance & real estate; service; government and other non-manufacturing.

Source: Work Force Estimates, 1972, Employment Security Commission.

In this basic-non-basic approach, the export base is the major factor determining the level of the County income in that it supports the non-basic sector. An indication of the area's economic health can be gained by examining the ratio of the basic and non-basic activities in a county. A county that depends too heavily on one or a few large basic industries may be unstable in that the impact of an economic slump might prove disastrous.

Table 12 utilizes employment figures in breaking down Bertie's employment into basic and non-basic activities for the years 1962, 1967 and 1972. In 1962 Bertie County had an extremely high proportion of basic activities. This is due to the dominate role played by agricultural employment. By 1972 radical change had

occurred in the employment picture. The number of basic activities decreased while an increase occurred in the non-basic sector, both as a whole and in gross numbers.

While it is recognized that the ratio between basic and non-basic will vary, an increase in basic employment generally gives rise to increased supporting employment. Perhaps most significant is the direction of change of the ratio. An increase in the ratio of basic employment to total employment might indicate a new growth cycle, whereas a decrease may indicate a leveling off or decline.

TABLE 12

EMPLOYMENT ANALYSIS
Bertie County
1962, 1967 and 1972

Employment Catagory	Number of Employees 1962	1967	1972
BASIC			
Manufacturing			
Food	160	130	130
Wood & Lumber	680	700	660
Other Manufacturing	150	360	720
Total Manufacturing	990	1190	1510
Non-Manufacturing			
Agricultural	3900	2840	2270
All other non-manufacturing	790	860	940
Total Non-manufacturing	4690	3700	3210
TOTAL BASIC	5680	4890	4720
TOTAL NON-BASIC	1500	1870	1970
Total Employed	7180	6760	6690
Percent Basic/Total Employed	79.1	72.3	70.6

The decrease in total jobs available in Bertie County between 1962 and 1972 caused those that were displaced from the job market to seek employment elsewhere. Undoubtedly, this contributed to the outmigration experienced by Bertie County during the 1960's. Others chose to remain in Bertie County and commute to surrounding areas in order to obtain employment.

Table 13 examines commuting patterns for Bertie County during 1960 and 1970. Note the large net commuting loss between 1960 and 1970. The surrounding counties of Hertford and Northampton captured the largest numbers of commuters. Residents of Bertie County showed a willingness to commute as far as Norfolk, Virginia and Beaufort County in order to find work.

Bertie County had a personal income total of $52 million in 1972. This broke down to a per capita income of $2,461. This per capita income is only 55% of the national average and 66% of the State average.

Income data for families, often a more meaningful index of income, shows a similar low level of income. The median family in Bertie County during 1969 was $4,829. The median income of black families was $3,296. The following table (Tabel 14) examines family income and other income data for Bertie County. The data is further broken down by race.

The income data (Table 14)gives an indication of the overall wealth and prosperity of the population of the County. Incomes can serve as the bell weather of the local economy.

Another indication of economic health is the number of manufacturing firms in the County and the number employed by the firms. Table 15 lists manufacturing firms in the County and the number employed by the firms.

TABLE 13

COMMUTING PATTERNS FOR BERTIE COUNTY

County	1960		1970	
	Out-Commuting	In-Commuting	Out-Commuting	In-Commuting
Beaufort	5	12	48	22
Chowan	38	25	249	12
Edgecombe	4	--	0	0
Gates	4	7	10	0
Halifax	18	12	17	10
Hertford	450	183	753	121
Martin	38	58	98	124
Nash	0	0	4	0
Northampton	25	46	103	62
Pasquotank	3	--	0	8
Pitt	0	0	0	9
Tyrrell	0	0	0	7
Washington	4	--	21	28
Norfolk (Virginia)	0	0	33	--
Elsewhere	69	51	128	55
TOTAL	658	394	1,464	458
Live & Work in Bertie County	6,387	6,387	4,466	4,466
Employed Residents	7,045	xxx	5,930	xxx
Persons Working in Bertie County	xxx	6,781	xxx	4,924
Net Commuting-Gain (+) or Loss (-)	-264		-1,006	

SOURCE: Employment Security Commission of North Carolina North Carolina Commuting Patterns, 1960 and 1970.

TABLE 14

FAMILY INCOME DATA FOR BERTIE COUNTY, 1969

	Bertie Co.	N. C.
All Families		
Median Income	$4,829	$7,774
Percent Receiving Public Assistance	26.4	4.4
Percent Less than Poverty Level	36.9	16.3
Percent Less than 75% Poverty Level	27.9	11.0
Percent Less than 125% Poverty Level	45.1	22.3
Black Families		
Median Income	$3,296	$4,803
Percent Receiving Public Assistance	31.5	4.37
Percent Less than Poverty Level	56.2	28.7
Percent Less than 75% Poverty Level	44.8	27.3
Percent Less than 125% Poverty Level	64.9	49.3

Source: 1970 U. S. Census of Population

TABLE 15

MANUFACTURING FIRMS

Bertie County, 1975

Firm	Location	Product	Employment Range
Blue Ridge Shoe Corp.	Aulander	Shoes	100-249
National Peanut Corp.	Aulander	Peanuts	100-249
Georgia Pacific Corp.	Colerain	Timber	10-19
Perry, Wynns Fish Co.	Colerain	Canned herring, rock & fish	250-499
Kelford Coca Cola Bottling Co.	Kelford	Soft drinks	10-19
H. E. Bunch Pattern Works	Lewiston	Wood & metal patterns, Non-ferrous castings, Models and mockups, Special millwork items	5-9
Harrington Manu. Co.	Lewiston	Farm & industrial machinery	250-499
Weyerhaeuser Co.	Lewiston	Pine lumber	50-99
Roxobel Garment Co.	Roxobel	Children & Women's apparel	50-99
Bertie Industries Inc.	Windsor	Contract sewing	100-249
Bertie Stave Co.	Windsor	Whiskey barrel staves	20-49
Blue Bell, Inc.	Windsor	Female dungarees	100-249
Robert Sherlock Byrum	Windsor	Logging	5-9
Copper Sand Co., Inc.	Windsor	Sand	5-9
Coulbourn Lumber Co.	Windsor	Dressed pine lumber	50-99
Gillam Bros. Peanut Shellers	Windsor	Peanuts	50-99
Stubbs Veneer Co.	Windsor	Rotary hardwood veneer	20-49
Lea Lumber & Plywood Co.	Windsor	Cut to size plywood	250-499
Metco	Windsor	American buildings metal	10-19
Windsor Wood Prod., Inc.	Windsor	Furniture components	10-19
Tompson & Co.	Windsor	Cypress, pine lumber & chips	10-19
Obie White & Sons	Windsor	Pine lumber	5-9

B. EXISTING LAND USE

Bertie County has a total of 464,576 acres within its boundaries. Water areas comprise 23,986 acres, or 5.1 percent of this. The dominate land use within the land area of the county is forestry, which has 309,083 acres, or 66.5 percent of the total area. Following forestry are croplands with 94, 234 acres (20.3 percent); other land in farms, such as feed lots, road, etc. 17,970 acres (3.9 percent); urban and built up land, 13,277 acres (2.9 percent); and pasture, 6,116 acres (1.3 percent).

Between 1958 and 1967, Bertie County had a 314.9 percent change in the number of acres in the urban and built up category. There was a small increase in forest land (0.4 percent) and losses in cropland (-6.4 percent), pasture (-10.2) and other land uses (-18.5 percent).

An examination of the existing land use map will reveal that the county's population is grouped in and around the communities. This seems to be the pattern, with population leaving the more remote areas and migrating either out of the county or locating near population concentrations within the county.

Conceptually, the county can be viewed as having concentration of development in the incorporated areas of Askewville, Aulander, Colerain, Roxobel, Kelford, Lewiston-Woodville and Windsor. An unincorporated population concentration exists in the Merry Hill section. The areas surrounding these islands of development are used as a resource base for farming and wood products.

Presently, development patterns are sufficiently dispersed so as to create no significant compatibility problems from unplanned development which have implications for future land use.

Two areas of the county are experiencing or likely to experience major

land use changes. The Merry Hill section of southeast Bertie County has been and is likely to continue experiencing an increase in residential development. Job opportunities provided in nearby Plymouth make this area an attractive residential area.

The second area likely to experience major land use changes is the Woodville-Lewiston and Roxobel-Kelford area. A large chicken processing plant has recently opened on N.C. 308 between the two areas. It is anticipated that future land use changes will result from (1) support industries moving into the area and (2) residential development resulting from the new job opportunities in the area. There is a high potential for haphazard development and conflicting land uses in the area.

C. CURRENT PLANS, POLICIES AND REGULATIONS

Current plans, policies and regulations provide a means to analyze prior identification of needs and local government's response to those identified needs. What follows is a listing of plans, policies and regulations available to and commonly used by local governments in North Carolina.

1. Plans and Policies

Transportation Plans - Bertie County has no transportation plans. The following is an analysis of the county's transportation systems. The primary mode of transportation in Bertie County is highway based transportation. North-South routes through the County are provided by N.C. 11 in the western portion of the County; U.S. 13 running from Williamston, through Windsor, to Ahoskie; and N.C. 45 running from Plymouth through Colerain into Hertford County. East-West transportation routes within the County are largely centered around Windsor. U.S. 17 enters Bertie County at Williamston, proceeds to Windsor, and from there toward Edenton. N.C. 308 begins in Windsor and runs northeast toward and through Lewiston, Roxobel and Kelford. N.C. 305 branches off U.S. 13 five miles north of Windsor and proceeds to Aulander. In the northern part of the County, Colerain is connected to Powellsville and U.S. 13 by N.C. 350 running west from Colerain.

In addition to the above, the County is interlaced with secondary roads. There are a total of 490 miles of secondary roads in the County of which 209 miles, or 42.6% are unpaved. Table 16 examines the highway mileage by systems in Bertie County.

The automobile plays a dominant role in the transportation picture of Bertie County. Between 1960 and 1972, the number of automobile registrations in Bertie County increased from 5,393 to 8,059, an increase of almost 50 percent

during a period when the County lost population. In 1972, one car was registered for every 2.5 persons.

TABLE 16

Highway Mileage by Systems

Bertie County

	Primary	Secondary
Rural	128	477
Municipal	12	13
Unpaved	0	209
Total	140	490

Source: N. C. State Government Statistical Abstract

Little is available for personal transportation in Bertie County, other than the private automobile. Carolina Trailways serves Bertie County with inter-city bus service for fare paying passengers and smaller packages. Their routes follow N. C. 11, U.S. 13 and U.S. 17. No bus stations are located in the County but agency stops are located in Aulander, Lewiston and Windsor. Taxis offer a limited means of fare paying transportation. The Choanoke Area Development Association (CADA) operates a rural public transportation service in the rural areas of Bertie County. The system is intended primarily for the low income, elderly and handicapped persons. Service is available through regular routes or on demand.

Air transportation is difficult to obtain in Bertie County. Those seeking regular passenger service must travel to the Rocky Mount-Wilson Airport or to Norfolk. There are two general aviation aircraft based in Bertie County. The nearest publicly owned airport is Tri-County Airport in Hertford County.

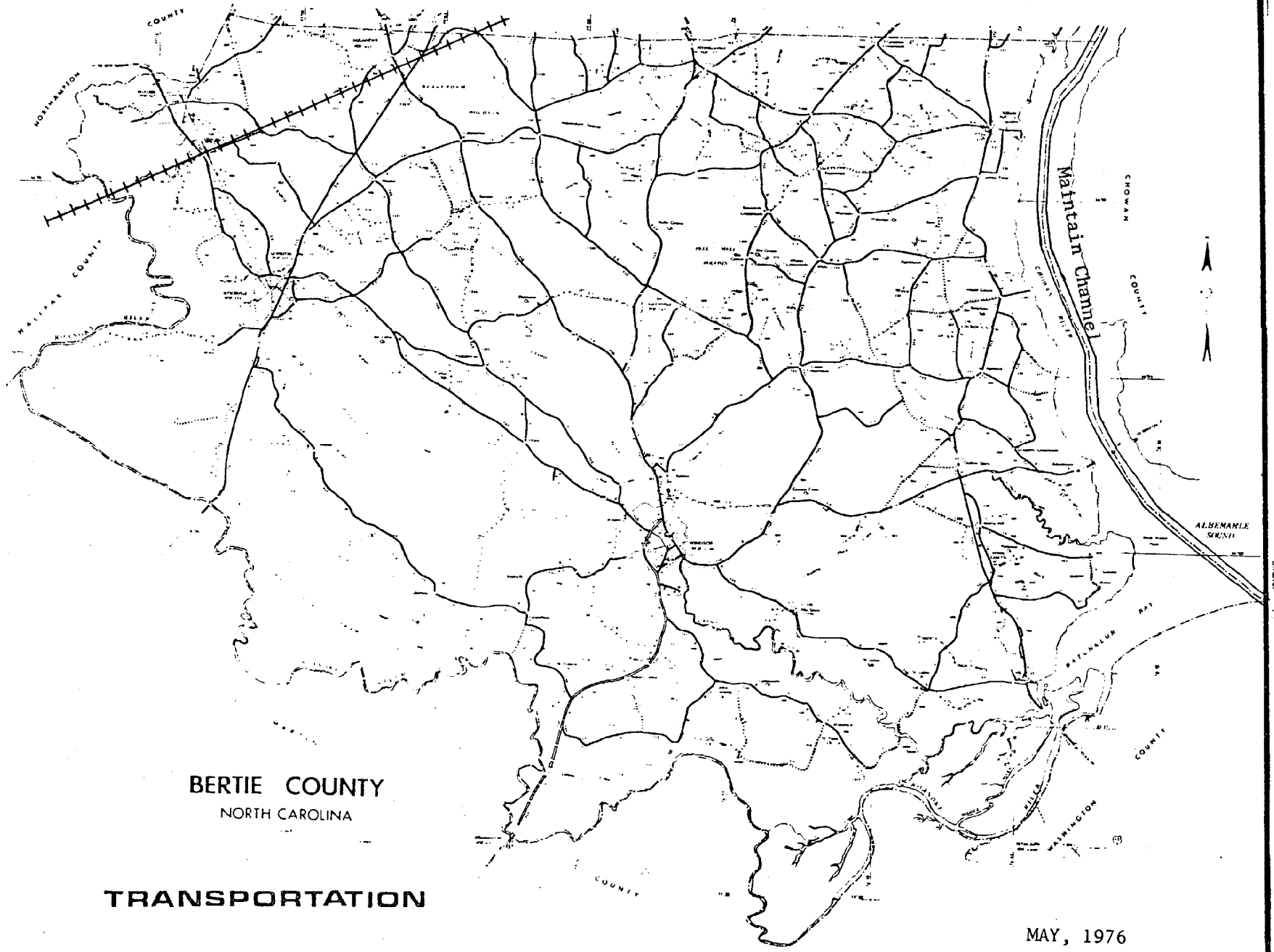
Historically, water transportation has played a major role in the development of Bertie County. The Roanoke, Chowan and Cashie Rivers were used as early avenues of trade. Today, water transport has almost ceased in the County. Surface transport, both rail and trucking, has replaced water transport. The rivers today serve more as a barrier to transportation than a means of transportation.

The Roanoke River has historically been maintained as a navigation project by the U. S. Army Corps of Engineers. The project provides for a channel 12 feet deep and 150 feet wide from the Albemarle Sound to one mile above Plymouth, then 10 feet deep and 100 feet wide to Hamilton, then 8 feet deep and 80 feet wide to Palmyra Landing and then 5 feet deep and 50 feet wide to Weldon. The Corps has failed to properly maintain the river in recent years and it is doubtful the project still exists. In any event no trade is transported from Bertie County via the Roanoke River.

The Chowan River has a channel 12 feet deep and 80 feet wide running its entire length. Water transport is provided the Town of Colerain. Due to the Chowan, the areas of the County adjoining it could be utilized by industries dependent upon water transport.

The Cashie River is also navigable. In the past it has been used principally to transport pulpwood, sand, gravel and crushed stone. During 1973 no commerce was reported on the Cashie.

Rail service is provided in Bertie County by Seaboard Coast Line whose tracks run through the northwestern corner of the County. Rail service is provided to Aulander, Roxobel-Kelford and Woodville-Lewiston.



BERTIE COUNTY
NORTH CAROLINA

TRANSPORTATION

MAY, 1976

MAP 3

The Mid-East Commission has completed a Regional Transportation Plan which can provide an overview of transportation in Region Q and Bertie County's relationship to the regional transportation network.

Community Facilities Plan - Bertie County has no comprehensive community facilities plan. It has had two plans completed that deal with water and sewer needs. The first study of this type was conducted by Rivers and Associates in 1968, the Bertie County Comprehensive Water and Sewer Study. The study contains recommendations for water and sewer facilities for the county. A Region Q Water Management Plan prepared for the Mid East Commission in 1975 also examines the water and sewer needs of Bertie County. This information is presented later in this plan.

One '201' wastewater treatment area has been designated in Bertie County. The area centers around the Lewiston-Woodville area and includes Roxobel and Kelford. A comprehensive wastewater treatment plan will be developed for the area.

Utilities Extension Policies - Bertie County has no utilities extension policy.

Recreation Policy - With the advent of Revenue Sharing, the County began making recreation grants available to local communities. These grants are administered through a recreation advisory committee. This committee reviews requests from local communities and prepares a budget for submission to the County Commissioners. The current policy of the recreation committee and the County Commissioners is to continue assisting communities in providing their own recreational activities.

Open Space Policies - Bertie County has no policy for the acquisition or preservation of open space.

Prior Land Use Plans - Bertie County has not had any prior land use plans prepared. The county has had a planning board established for a number of years.

Prior Land Use Policies - Bertie County has no prior land use policies.

2. Local Regulations

Counties in North Carolina have available to them a broad range of regulatory powers which enable local government to influence land use decisions. Below are listed a number of these regulations and their status in Bertie County.

Zoning Ordinance - Bertie County does not enforce a zoning ordinance in any form.

Subdivision Regulations - Bertie County does not enforce any subdivision regulations.

Floodway Ordinances - Bertie County is not enforcing any floodway ordinances. The County is not under the emergency flood insurance program and has not been identified as a flood hazard area. At the time of this writing there are no plans to map the flood prone areas of Bertie County. Without these areas mapped, it would be difficult, if not impossible, to adequately enforce a floodway ordinance.

Building Codes - Bertie County is presently enforcing the North Carolina Electrical Code. Some consideration is being given to extending code enforcement to include the building and plumbing codes.

Mobile Home and Travel Trailer Ordinance - The county planning board presently has under consideration a mobile home and travel trailer ordinance.

Septic Tank Regulations - The Bertie County Health Department is presently enforcing septic tank regulations. These regulations meet minimum standards established by the N. C. Department of Human Resources.

Historic District Regulations - Bertie County does not enforce any historic district regulations.

Nuisance Regulations - Bertie County has no nuisance regulations which impact land use patterns.

Dune Protection Ordinances - Bertie County has no dune protection ordinances.

Sedimentation Codes - Bertie County has no sedimentation codes.

Environmental Impact Statement Ordinance - Bertie County has no environmental impact statement ordinance.

3. Federal and State Regulations

As can be seen above, Bertie County enforces few regulations which have a significant impact on land use decisions. Of more consequence are the myriad of state and federal regulations which impact on the citizens of Bertie County.

The state guidelines for preparation of these land use plans require that these state and federal regulations be listed and discussed. The N. C. Department of Natural and Economic Resources was to prepare such a listing and discussion for inclusion in this plan. At the date of this writing, no such listing has been presented to local governments for inclusion into these plans.

III. MAJOR LAND USE ISSUES
(PUBLIC PARTICIPATION ACTIVITIES)

A. IDENTIFICATION AND ANALYSIS OF MAJOR LAND USE ISSUES

The basic thrust of this plan is the identification of major land use issues and proposed courses of action to deal with the identified issues. In identifying the major land use issues discussed in this plan, five subject areas were examined. These were: (1) the impact of population and economic trends; (2) the provision of adequate housing and other services; (3) the conservation of productive natural resources; (4) the protection of important natural environments; and (5) the protection of cultural and historic resources.

Analysis of the above five areas resulted in the identification of five major issues facing Bertie County. These issues were: (1) the need for additional economic development in the county; (2) the protection and utilization of valuable natural resources; (3) the need to improve factors affecting the quality of life in the county; (4) the need to address land development problems facing the county; and (5) the need to provide a local government capable of meeting the challenges facing Bertie County.

The number one identified need in Bertie County is the need for additional economic development. The previous section on population and economy described the effects of changing agricultural practices on the population and economy of Bertie County. If the county is unable to attract additional economic development, then the county is destined to remain at or near the bottom in a ranking of North Carolina counties in areas such as per capita income, average family income, percent below poverty level, number of substantial housing units, etc. Outmigration is likely to continue, although at not as great a rate as in the past. The desire to attain a higher standard of living for all the citizens of the county will not be achieved.

To break this cycle of poverty, the county has decided to continue its efforts to attract additional industries into the county. In doing this, the county will seek to upgrade the skills of the labor force, encourage the development and utilization of the county's natural resources and further develop the county's infrastructure to better accommodate new industry.

It is hoped that by attracting new industry into the county, income levels will rise, unemployment will drop, and the trend of outmigration will be stemmed.

The second major land use issue identified was the conservation and utilization of the county's natural resources. Agriculture and forestry are major factors in the local economy, as well as the dominant land uses in the county. These resources, properly utilized and managed, can continue to put dollars into the local economy, provide recreation, safeguard the environment and ensure the retention of the rural quality of life in Bertie County.

In order to conserve and develop its natural resources, Bertie County needs an inventory of what those resources are. The county has long recognized the need for a detailed soils inventory. During preparation of this plan, the county was able to begin surveying the soils of the entire county, beginning in the growth areas or "hot spots."

In addition to inventorying the county's resources, it was felt that there existed a need to inform the small land owner of the need to properly manage his productive natural resources. Efforts in this direction were to be in supporting existing educational programs, such as the County Agricultural Extension Service, and expanding programs into new areas such as forestry management. Suggestions were made to hire a County Extension Forester to serve the same function as the Agricultural Extension Service.

In an effort to ensure the protection of the county's natural resources, future county regulations and policies will be cognizant of, and address, constraints on development such as those discussed in this report.

A third major land use issue was identified and labeled "Quality of Life." The goal is a result of many expressions of the positive aspects of life in Bertie County. Included under this goal are such things as recreation, community spirit, communications, shelter, shopping opportunities, church life, and many other factors which contribute to the community and how the residents feel about it.

In the efforts to obtain citizen input, both surveys and small group meetings, residents indicated that the most desirable aspects of life in Bertie County were such intangible factors as "the rural atmosphere," "good neighbors," "no pollution," "the hunting and fishing in the area," "a sense of community" and similar qualities. The residents of the county wish to retain these qualities of life in Bertie County while seeking changes in economic development.

Bertie County has few, if any, major land development problems. The sparsely developed, rural nature of the county accounts for few conflicting land uses. Despite this land development was identified as a major land use issue.

Citizens around the county cited such land development problems as inadequate lot size, septic tank problems due to soil characteristics, improper mobile home developments and other such problems. These problems were largely centered in areas around communities in the county that were not serviced by water and sewer.

The recent completion of the Purdue plant in the Lewiston-Woodville area is expected to increase development pressure in the northwestern section of

the county. The need to comply with development pressures by ensuring orderly development through such devices as subdivision regulations and mobile home park regulations is recognized by the local officials.

If the county proves successful in attracting additional economic development, other areas of Bertie County will be faced with development pressures similar to those presented by the Perdue plant. The need to provide the local control necessary to ensure orderly growth has been recognized.

A fifth major land use issue was identified which dealt with the efficiency and responsiveness of local government. If this plan is to be a key element in providing for a growing, prosperous Bertie County, then it must be implemented. How well it is implemented is dependent on (1) how closely it matches the desires of the people of Bertie County, and (2) the ability of local government to carry out the objectives listed in this document.

This goal seeks to involve more people in the local government process and to ensure that the programs suggested are carried out in the most efficient manner.

B. ALTERNATIVES CONSIDERED IN THE DEVELOPMENT OF GOALS AND POLICIES

Three basic alternatives were considered in the development of the goals and policies for this plan. These alternatives centered on the overall growth and development of Bertie County. The alternatives were:

(1) To take no action, with the probable results being a continuation of the trends of outmigration, high levels of poverty, poor housing conditions, etc.;

(2) To seek a reversal of the outmigration, a rise in income levels, reduced unemployment, etc.; and,

(3) To seek large scale industrial development.

The second alternative was selected. This alternative was in keeping with the desires of the citizens of the county to seek more economic development while retaining the rural lifestyle of Bertie County.

The concensus on the desirable growth direction for the county was held by almost every citizen contacted by the public participation effort.

C. LAND USE GOALS AND OBJECTIVES

Goals provide an ideal or target to aim for. The following goals and objectives were established for Bertie County. The goal is a broad, general area or issue such as growth. The objectives listed under that goal describe specifics such as the rate of growth desired by the county. When taken together, these goals and objectives draw a picture of what Bertie County should look like in the future. Your elected officials will constantly refer to these goals while considering matters related to the future growth and development of Bertie County. The goals and objectives for Bertie County are:

I. GOAL: ECONOMIC DEVELOPMENT

Using almost any indicator, per capita income, family income, etc., Bertie County is shown to be an economically underdeveloped area. Sixty-three percent of the County's residents responding to a questionnaire felt that unemployment was a moderate or severe problem while 56.8 percent felt that lack of employment was a moderate or severe problem. The need for more economic development was cited in every public meeting held by the Planning Board.

Economic development was felt to be the most severe problem facing Bertie County and was assigned the number one priority. In an effort to achieve more economic development, the following objectives should be pursued:

- To maintain or increase the present County efforts to recruit industry.
- To upgrade the skills of the unemployed to enable them to qualify for available jobs.

- To assemble information on loans, grants, market analyses, etc., to be used by individuals or corporations interested in establishing a business in Bertie County.

- To assist local communities in upgrading their water and sewer systems in order to enable them to become more competitive in attracting industry.

- To encourage the development and utilization of the natural resources in Bertie County.

- To attempt to stop the County population loss by providing job opportunities.

II. GOAL: NATURAL RESOURCES

Bertie County has an abundant supply of natural resources. Forestry and agriculture are major factors in the local economy and the dominant land use in the County. These resources, properly utilized and managed, can continue to put dollars into the local economy, provide recreation, safeguard the environment and ensure the retention of the rural quality of life in Bertie County.

In order to utilize and manage the natural resources of Bertie County, the following objectives should be pursued:

- To seek a detailed soils map of the entire County.

- To support programs which assist agricultural development within the County.

- To encourage proper forest management by providing education as to its benefits.

- To address the constraints on development in preparing County regulations and policies.

III. GOAL: QUALITY OF LIFE

The goal regarding quality of life covers a broad area. Included under it are such things as recreation, community spirit, communications, shelter, shopping opportunities, church life, and many other factors which contribute to our community and the way we feel about it.

Most County residents, when asked "what do you like best about Bertie County?" generally list items, such as, "the rural atmosphere," "good neighbors," "no pollution," "the hunting and fishing in the area," "a sense of community," and other qualities such as these. In seeking changes such as economic development it is important not to lose these qualities for in doing so we may raise our standard of living but make our lives less meaningful and enjoyable. The following objectives are proposed:

- To retain the rural lifestyle of Bertie County.

- To retain the environmental quality and protect the natural resources of Bertie County.

- To develop recreational facilities with programs to utilize those facilities.

- To provide recreation for all age groups.

- To support programs which assist the elderly in maintaining their independence.

- To seek improvement in the transportation system in Bertie County.

- To support community pride by encouraging local control of programs such as recreation, fire and rescue departments.

- To facilitate communication by supporting the concept of a county-wide telephone system.

- To encourage the development of safe and adequate housing and upgrade existing housing.

- To support greater cultural opportunity.

- To encourage the development of safe and adequate housing and upgrade existing housing.

- To support greater cultural opportunity.

- To encourage the development of shopping opportunities.

- To establish boat ramps on the County's waterways.

- To initiate a junk car removal program.

IV. GOAL: LAND DEVELOPMENT

One might not expect a county such as Bertie, which is losing population, to be facing any land development problems. Yet citizens around the County have cited such land development problems as inadequate lot size, septic tank problem due to soil characteristics, improper mobile home development and other such problems. If Bertie County succeeds in attracting development it will face an increasing number of land development problems.

In order to cope with existing land development problems and to avoid future problems, the following objectives will be pursued.

- To obtain a detailed soils map of the county.

- To educate the public on the effect of differing soil types on septic tank performance.

- To adopt subdivision regulations to ensure the orderly subdivision of land.

- To adopt zoning regulations in rapidly developing areas to avoid conflicting land uses.

- To encourage the development of housing within the county.

- To establish building codes enforcement to ensure standard construction.

- To adopt a mobile home park ordinance to ensure the orderly development of mobile homes in Bertie County.

- To address the constraints placed on development by areas of environmental concern in local regulations and policies.

V. GOAL: LOCAL GOVERNMENT

Every citizen has a stake in how well his local government operates. Inefficient local government wastes taxpayers' money and is ineffective at solving problems. The objectives set forth here seek to ensure effective local government which can deal with day-to-day problems and strive for long-term goals such as are expressed in this document. The keys to the implementation of this plan are, first, a desire of the local community to implement it, and second, the ability of local government to address long-range goals. The following objectives are suggested:

- To develop a management system capable of implementing this plan.

- To increase efficiency of local government by coordinating of programs and departments.

- To increase black involvement in decision making.

- To foster cooperation among communities within the County.

- To better communicate the purpose and operation of County programs to the public.

D. PROCESS USED IN DETERMINING GOALS

The Bertie County Planning Board used a three step process in determining goals. The first step was a data gathering and analysis process. This provided the planning board with an insight into whether, and to what degree, problems existed in areas such as housing, wages, employment, forestry and agricultural production, etc.

The second step in the goal determination process was an effort to ascertain what the public perceived as the problems, needs, and desirable points of life in Bertie County. Two methods were used in an effort to obtain the desired public input into the planning process. One of these was a questionnaire distributed county-wide through school children. The questionnaire asked questions related to local problems, level of local government expenditures and a number of questions regarding development and environmental quality.

In addition to the survey of opinions in the county, the planning board held a number of meetings throughout the county so as to be afforded an opportunity to hold small group discussions on possible goals and objectives. In holding these meetings, a process known as the nominal group process was used. This process ensures maximum participation by each person attending and does now allow any one person or group of persons to dominate the discussion.

With the information from the data collection and analysis and the small group discussions, the planning board met to develop the goals and objectives that were presented in the prior discussion. The process ensured maximum public participation and goals that are an accurate reflection of the desires of the citizens of Bertie County.

In August, 1975, the planning board met and utilizing the information obtained from the survey and the public meetings, established the goals that are contained within this report.

In November, 1975, a draft of the plan was submitted to the CRC for review. Comments from this review were received and corrections and additions were made to the plan.

On May 8, 1976, the Bertie County Commissioners held a public hearing on the plan and subsequently adopted it.

To what extent was public participation successful? The public participation process was designed so as to give every individual in Bertie County a chance to participate in the planning process, however only about 35 percent of the adult population participated. Proportionately, participation by blacks was higher than by whites. It was felt that those who did participate made a meaningful contribution to the planning process.

E. SECURING PUBLIC PARTICIPATION

Bertie County's public participation program was developed by the local planning board following suggestions outlined in the Coastal Resources Commission's "Handbook on Public Participation." In addition to the steps outlined in the handbook, meetings were held in the various communities of the county where small group discussions centered on identifying county land use issues.

The first phase of the program was to inform local citizens about the CAMA program. The local newspaper, the Bertie Advance-Ledger, gave extensive coverage to the planning board's activities. In addition, a number of CAMA related articles were published and a large number of CAMA leaflets were distributed.

While the informational process was evolving, the planning board held a number of public meetings throughout the county in an effort to obtain public input into the planning process. Meetings were held in Aulander, Colerain, Askewville, Merry Hill, Roxobel-Kelford, Lewiston-Woodville, and a number in Windsor. At these meetings, each person was asked to identify land use issues in the county and then each group established priorities for those issues listed. The information was retained from each meeting for use by the planning board in setting goals.

In an effort to reach a broader segment of the population than would be possible through the public meetings, approximately 2,000 questionnaires were distributed throughout the county using school children. These questionnaires asked questions related to local problems, levels of local government expenditures, and a number of questions regarding development and environmental quality. Responses were tabulated by the Regional Development Institute at East Carolina University and analyzed by computer.

IV. CONSTRAINTS ON DEVELOPMENT

IV. CONSTRAINTS ON DEVELOPMENT

A. LAND POTENTIAL

1. PHYSICAL LIMITATIONS

a. Hazard Areas

Hazard areas can be either man-made or natural. Bertie County has few man-made hazard areas. Possibly of greatest danger are above ground tanks used for storage of flammable liquids. There exist no concentration of these in Bertie County. Caution should be exercised in development of sites immediately adjacent to any existing tank. Future land use regulations should address this subject in order to avoid potential problems.

Two types of natural hazard areas exist in Bertie County: flood hazard areas and estuarine erodible areas. The shoreline of the Chowan River and Albemarle Sound has a high probability of excessive erosion occurring, thereby endangering development in the area. Estuarine erodible areas are examined in Part Two under discussion of areas of environmental concern.

Based on a general soils map, approximately 66 percent of the county is subject to flood hazard. Flooding hazards range from seasonal flooding of the Roanoke River bottom land to tidal flooding in areas adjacent to the Chowan River and Albemarle Sound. The Town of Windsor has taken steps to come under the National Flood Insurance Program. Because of this, detailed maps of the flood-prone areas in Windsor are being prepared.

Detailed mapping of flood-prone areas in the county outside of Windsor are non-existent. Rough mapping of the 100-year flood level has been done by the U.S. Army Corps of Engineers for parts of the Roanoke and Chowan rivers. No topographic maps exist for the Chowan River.

County officials have made no efforts to come under the flood insurance program. The general opinion is that, other than Windsor, areas subject to flooding are underdeveloped and are likely to remain so. Benefits of joining

the program are: (1) obtaining detailed mapping of flood prone areas, and (2) qualifying county residents for flood insurance.

Also of major concern is the flooding of the Roanoke caused by release of water from dams upstream from Bertie County. Local officials feel that the water is released to accommodate recreational interest upstream. The result is that the Roanoke remains flooded for longer periods of time than if the dams upstream did not exist. The prolonged flooding has caused damage to agriculture crops and wildlife along the Roanoke Valley.

b. Soil Limitations

The soils of an area will greatly determine the extent of present development and the potential for future growth. Unless an area has the proper soils, progress cannot be made in agriculture, urban development, and construction. In general, the soils of Bertie County are favorable for many types of construction and various functions.

The General Soils Map of Bertie County, Map No. 4, shows the soil associations, their location and extent in the county. The accompanying soil interpretation table gives the suitability of the principal soils for general agriculture and woods. Also, it gives their limitations when used for non-farm purposes, such as septic tank absorption fields, foundations for light industry, or for dwellings where public sewerage is available. For detailed information on particular areas, the Soil Conservation Service should be consulted.

Generally, the soils of Bertie County are rock-free as a result of sedimentary deposits that underlay them for several hundred feet. Consequently, they are excellent for growing field crops. With good farm management, high yields can be achieved.

The texture of the top soil used for farming is good, ranging from sandy loam to silty loam. The slopes of these soils range from 0-10 percent. Most of the soils suitable for cultivation are somewhat poorly drained. The ground water table varies widely throughout the county depending on weather and location.

Below are descriptions of the soil associations as shown on the General Soil Map (Map No. 4) for Bertie County.

1. NORFOLK-GOLDSBORO-LYNCHBURG ASSOCIATION

Nearly level to gently sloping, well drained (Norfolk), moderately well drained (Goldsboro) and somewhat poorly drained (Lynchburg) deep friable soils with gray sandy surface and yellow to mottled yellow and gray sandy clay loam subsoil.

2. DUPLIN-CRAVEN-MARLBORO ASSOCIATION

Moderately well drained (Duplin, Craven) and well drained (Marlboro) soils with gray loamy sand or sandy loam surfaces and deep, firm to very firm, yellow to yellowish red clay loam to clay subsoils.

3. LENIOR -CRAVEN ASSOCIATION

Nearly level to sloping, somewhat poorly drained (Lenior) and moderately well drained (Craven) soils with gray to dark gray fine sandy loam to silt loam surfaces, 4-10 inches thick over deep, very firm, mottled yellow and gray clay subsoils.

4. CAHABA-KALMIA ASSOCIATION

Well drained soils with brownish gray to dark brown loamy sand to sandy loam surfaced 10-20 inches thick over friable yellowish brown to yellowish red sandy clay loam subsoil.

5. LENOIR-COXVILLE ASSOCIATION

Somewhat poorly drained (Lenoir) and poorly drained (Coxville) soils with thin (4-6") gray, fine sandy loams to silt loams surfaces over deep, firm to very firm gray or sandy clay bubsoils which are mottled with yellow throughout.

6. WICKHAM-ALTAVISTA-WAHEE ASSOCIATION

Well drained (Wickham), moderately well drained (Altavista) and somewhat poorly drained (Wahee) soils with drak gray to brown sandy loam to silt loam surfaces and firm, yellowish red sandy clay loam and gray, clay subsoils. These soils are derived from old stream alluvium.

7. SWAMP

Very poorly-drained soil material of highly variable textures and depths, occupying positions at or near normal stream level. These soil materials remain inundated throughout most of the year.

8. ROANOKE-CHEWACLA-WEHADKEE ASSOCIATION

Nearly level, poorly-drained (Roanoke-Wehadkee) and somewhat poorly drained (Chewacla) soils of the first bottom on low terraces, having black to brown fine sandy loam to silt loam surfaces over gray to yellowish brown loam to clay subsoils. They are subject to frequent overflow.

9. WAGRAM-OCILLA ASSOCIATION

Nearly level to gently sloping, well-drained (Wagram) and moderately well to somewhat poorly-drained (Dunbar) soils with gray sandy loam surfaces 6-10 inches thick over deep, firm, brownish yellow to mottled yellow and gray sandy clay subsoils.

c. Water Supply Areas

Adequate supplies of water for farm, domestic, and municipal uses are provided in Bertie County by dug, drilled, or bored wells. Surficial sands and gravels of Quaternary age furnish more water to individual wells than any other aquifer in the county. Dug wells and driven wells, ranging in depth from 10 to 40 feet, obtain from 2 to 15 gpm from this material in most parts of the county.

Driven wells deeper than 40 feet and jetted wells as deep as 120 feet obtain water from the sand and marl beds in the Yorktown formation. Inasmuch as no single water-bearing horizon is recognized in this formation, the depths of individual wells is quite variable. No adequate figure for the yield of wells tapping the gpm, and several times the maximum figure, might be obtained at specific sites.

In the central and eastern section of Bertie, many jetted and drilled wells up to 4 inches in diameter obtain water from the Beaufort formation at depths as great as 450 feet, the depth depending upon the location. West and northwest of Windsor, jetted and drilled wells obtain the bulk of their water

SOIL INTERPRETATIONS
GENERAL SOIL MAP
BERTIE COUNTY, N. C.

% of County	Soil Association	% in Assoc.	LIMITATIONS FOR Septic Tank Filder Field	Dwellings w/o basements	Small Commercial Buildings	Local Roads and Streets	RECREATION Camp Areas	Picnic Areas	Playgrounds	SUITABILITY FOR General Agriculture 1/	2/	Woods	Pasture
10%	1. Norfolk-Duplin-Goldsboro												
	Norfolk	30%	Slight	Slight	Slight	Slight	Slight	Mod.Sandy	Mod.Sandy	Good	Good	Good	Good
	Duplin	25%	Sev.Wt.Perc.	Mod.Sh-Sw	Mod-Sh-Sw	Sev. LS	Mod.Perc.	Slight	Mod. Perc.	Good	Good	Good	Good
	Goldsboro	25%	Sev.Wt.	Slight	Mod. Wt.	Slight	Slight	Slight	Slight	Good	Good	Good	Good
26%	2. Lenoir-Craven-Dunbar												
	Lenoir	20%	Sev.Wt.Perc.	Sev.Wt.Sh-Sw	Sev.Wt.Sh-Sw	Sev.Wt.Sh-Sw	Mod.Wt.Perc.	Mod.Wt.	Mod.Wt.Perc.	Fair	Fair	Good	Good
	Craven	30%	Sev.Wt.Perc.	Sev.Sh-Sw	Sev.Sh-Sw	Sev.Sh-Sw	Mod.Perc.	Slight	Mod. Perc.	Good	Good	Fair	Good
	Dunbar	30%	Sev.Wt.Perc.	Sev.Wt.	Sev.Wt.	Sev.Wt.LS	Mod.Wt.Perc.	Mod.Wt.	Mod.Wt.	Good	Good	Good	Good
8%	3. Wickham-Altavista-Wahee												
	Wickham	40%	Slt-Mod	Slt.-Mod	Slt.-Mod	Slight	Slight	Slight	Slight	Good	Good	Good	Good
	Altavista	30%	Mod-Sev.Wt.	Mod.Wt.	Sev.Wt.Fl.	Sev.LS	Mod.Wt.	Mod.Wt.	Mod.Wt.	Good	Good	Good	Good
	Wahee	15%	Sev.Fl.Perc.	Sev.Wt.Fl.	Sev.Wt.Fl.	Sev.Wt.Fl.	Sev.Wt.Fl.	Sev.Wt.Fl.	Sev.Wt.Fl.	Fair	Good	Good	Good
3%	4. Wagram-Ocilla												
	Wagram	55%	Slight	Slight	Slight	Slight	Mod.Sandy	Mod. Sandy	Mod. Sandy	Good	Good	Fair	Good
	Ocilla	30%	Sev.Wt.	Mod. Wt.	Sev.Wt.	Mod.Wt.	Mod.Wt.Sandy	Mod. Wt.	Mod.Wt. Sandy	Fair	Fair	Fair	Good
28%	5. Lenoir-Coxville												
	Lenoir	30%	Sev.Wt.Perc.	Sev.Wt.Sh-Sw	Sev.Wt.Sh-Sw	Sev.Wt.Sh-Sw	Mod.Wt.Perc	Mod.Wt.	Mod.Wt.Perc.	Fair	Fair	Good	Good
	Coxville	50%	Sev.Wt. Perc.	Sev.Wt.Fl.	Sev.Wt.Fl.	Sev.Wt.LS	Sev.Wt. Fl.	Sev.Wt.Fl.	Sev.Wt.Fl.	Poor	Good	Good	Good
13%	6. Roanoke-Chewacla-Wehadkee												
	Roanoke	45%	Sev.Fl.Perc.	Sev.Fl.LS	Sev.Fl.LS	Sev.Fl.LS	Sev.Fl.Wt.	Sev.Wt. Fl.	Sev.Fl.Wt.Perc	Poor	Good	Good	Good
	Chewacla	20%	Sev.Wt.Fl.	Sev.Wt.Fl.	Sev.Wt.Fl.	Sev.Wt.Fl.	Sev.Wt.Fl.	Sev.Wt.Fl.	Sev.Wt.Fl.	Poor	Good	Good	Good
	Wehadkee	20%	Sev.Fl.Wt.	Sev.Fl.Wt.	Sev.Fl.Wt.	Sev.Fl.Wt.	Sev.Fl.Wt.	Sev.Fl.Wt.	Sev.Fl.Wt.	Poor	Fair	Good	Good
12%	7. Dare-Pungo-Ponzer												
	Dare	40%	Sev.Fl.	Sev.Fl.	Sev.Fl.	Sev.Fl.	Sev.Fl.	Sev.Fl.	Sev.Fl.	Poor	Poor	Poor	Poor
	Pungo	40%	Sev.Fl.	Sev.Fl.	Sev.Fl.	Sev.Fl.	Sev.Fl.	Sev.Fl.	Sev.Fl.	Poor	Poor	Poor	Poor
	Ponzer	15%	Sev.Fl.	Sev.Fl.	Sev.Fl.	Sev.Fl.	Sev.Fl.	Sev.Fl.	Sev. Fl.	Poor	Good	Good	Good

DEFINITIONS OF SOIL LIMITATIONS

NONE TO SLIGHT: Soils have properties favoarble for the rated use. Limitations are so minor that they can be easily overcome. Good performance and low maintenance can be expected from these soils.

MODERATE: Soils have properties moderately favorable for the rated use. Limitations can be overcome or modified with planning, design, or special maintenance.

SEVERE: Soils have one or more properties unfavorable for the rated use. Limitations are difficult and costly to modify or overcome requiring major soil reclamation, special design or intense maintenance.

ABBREVIATIONS FOR LIMITING FACTORS:

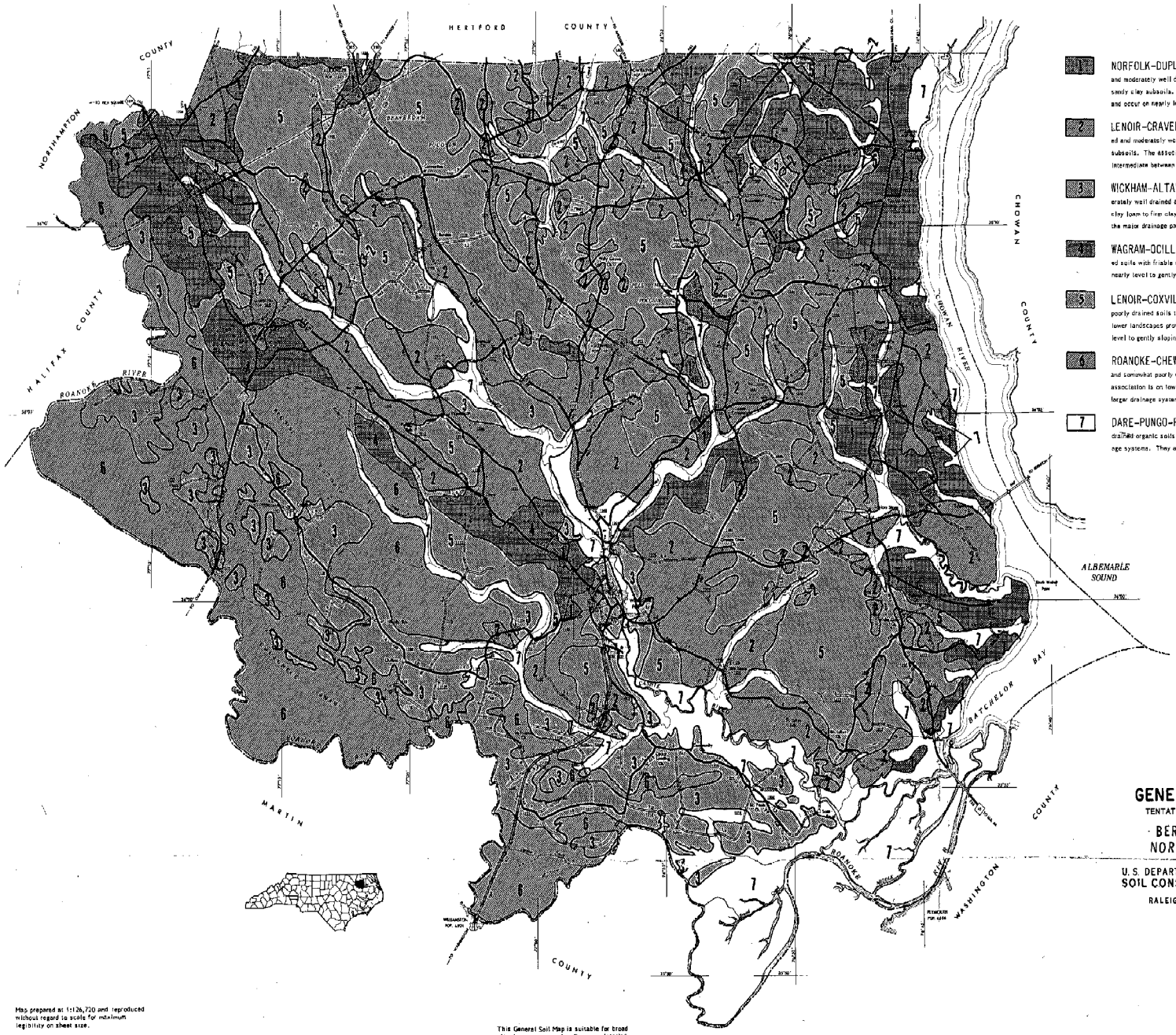
Sev.- Severe Mod- Moderate Slt - Slight

Fl - Flood Hazard
Wt - Water Table and Wetness
Sh-Sw - Shrink-Swell Potential
Perc - Percolation
Text - Texture
LFC - Low Filter Capacity
Cor - Corrosion Potential
TSC - Traffic Supporting Capacity
LS - Low Strength

NOTE: In some instances whan adequate mechanical measures have been applied or installed soils rated as "severe" can be upgraded to a "moderate" limitation i.e., Subsurface drainage applied to Altavista.

2/18/76

1/ Tobacco, peanuts and truck. 2/ Corn, soybeans and small grain.



1 NORFOLK–DUPLIN–GOLDSBORO ASSOCIATION: Well drained and moderately well drained soils that have friable sandy clay loam to firm sandy clay subsoils. The association is on the higher elevations of landscape and occur on nearly level to gently sloping reliefs.

2 LENOIR–CRAVEN–DUNBAR ASSOCIATION: Somewhat poorly drained and moderately well drained soils that have very firm clay to firm sandy clay subsoils. The association is on the broad flats and gently sloping landscapes intermediate between the higher and lower reliefs.

3 WICKHAM–ALTAVISTA–WAHEE ASSOCIATION: Well drained, moderately well drained and somewhat poorly drained soils that have friable sandy clay loam to firm clay subsoils. They occur on the high terrace levels bordering the major drainage patterns.

4 WAGRAM–OCILLA ASSOCIATION: Well drained and somewhat poorly drained soils with friable sandy clay loam subsoils. This association is on the high, nearly level to gently sloping landscapes.

5 LENOIR–COXVILLE ASSOCIATION: Somewhat poorly drained and poorly drained soils that have very firm clay subsoils. The association is on the lower landscapes providing broad areas of interstream divides occuring on nearly level to gently sloping reliefs.

6 ROANOKE–CHEWACLA–WEHADKEE ASSOCIATION: Poorly drained and somewhat poorly drained soils with firm clay to friable loam subsoils. The association is on low stream terraces and broad flood plains contiguous to the larger drainage systems.

7 DARE–PUNGO–PONZER ASSOCIATION (Histosols): Very poorly drained organic soils occuring on the low flat bottom lands along the major drainage systems. They are inundated throughout most of the year in normal seasons.

GENERAL SOIL MAP

TENTATIVE: SUBJECT TO CHANGE

BERTIE COUNTY
NORTH CAROLINA

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
RALEIGH, NORTH CAROLINA

Map prepared at 1:126,720 and reproduced without regard to scale for maximum legibility on sheet size.

This General Soil Map is suitable for broad planning purposes only. For more detailed planning on individual tracts of land, a detailed soil survey is needed.

POLYCONIC PROJECTION

Rev. 6-72 4-R-27127

Base – General Highway Map, 1970 Revision, North Carolina State Highway Dept. and USDC, Bureau of Public Roads.

4-R-31,982

from the Cretaceous formations at depths as great as 300 feet. As no single water-bearing horizon is present in these formations, the depths of individual wells cannot be determined in advance of the drilling.

Several of the municipal wells at Windsor are gravel-walled wells 12 inches in diameter and obtain water from the Beaufort, Peedee, and Black Creek formations. These wells, tapping multiple aquifers, have specific capacities ranging from 4 to 8 gmp per foot of drawdown and generally yield 300 gpm or more.

The chemical quality of ground water in Bertie County is adequate for most purposes. Water in shallow surficial sands, although soft, may be corrosive and have objectionable concentrations of iron. Water in shell beds of the Yorktown formation and impure shell limestone of the Beaufort formation may be hard but otherwise is of good quality. The waters generally become softer with depths below 100 to 125 feet. Brackish waters are commonly present in the deeper Cretaceous aquifers in all parts of the county below 500 feet. Flouride in excess of the maximum concentration (1.5 ppm) recommended in drinking water is present in waters from several aquifers below a depth of 300 feet.

The present rate of withdrawal of ground water in the county is only a small fraction of the total available supply.

d. Steep Slopes

Slopes of more than twelve percent occur adjacent to the Cashie, Chowan and Roanoke Rivers. Development potential along the Roanoke and Cashie is slight. The areas along the Chowan are high bluffs subject to erosion and provide a constraint on development.

2. FRAGILE AREAS

Many areas exist in coastal North Carolina which are important economically, environmentally and aesthetically, yet can be easily damaged or destroyed by inappropriate or poorly planned development. These areas in Bertie County include estuarine and public trust waters, complex natural areas, areas that sustain remnant species, scenic areas, and archaeologic and historic sites.

The estuarine and public trust waters, complex natural areas, areas that contain remnant species and some of the historic sites are given particular attention as to their constraint on development.

a. Coastal Wetlands

Bertie County has a limited number of coastal wetlands (marshes) located along the Albemarle Sound and Chowan River.

This marshland type contributes to the detritus supply necessary to the highly productive estuarine system essential to North Carolina's economically valuable commercial and sports fisheries.

The higher marsh types offer quality wildlife and waterfowl habitat depending on the biological and physical conditions of the marsh. The vegetative diversity in the higher marshes usually supports a greater diversity of wildlife types than the limited habitat of the low tidal marsh. This marshland type also serves as an important deterrent to shoreline erosion especially in those marshes containing heavily rooted species. The dense system of rhizomes and roots of *Juncus roemerianus* are highly resistant to erosion. In addition, the higher marshes are effective sediment traps.

b. Outer Banks and Dunes

Bertie County has no outer banks or dunes.

c. Ocean Beaches and Shorelines

Bertie County has no ocean beaches and shorelines.

d. Estuarine Waters and Public Trust Waters

Estuarine waters are defined in G.S. 116-229 (n) (2) as, "all the waters of the Atlantic Ocean within the boundary of North Carolina and all the waters of the bays, sounds, rivers, and tributaries thereto seaward of the dividing line between coastal fishing waters and inland fishing waters, as set forth in an agreement adopted by the Wildlife Resources Commission and the Department of Conservation and Development filed with the Secretary of State entitled 'Boundary Lines, North Carolina Commercial Fishing - Inland Fishing Waters, revised March 1, 1965,'" or as it may be subsequently revised by the Legislature.

Public trust areas are defined through the CAMA Planning Guidelines as "All waters of the Atlantic Ocean and the lands thereunder from the mean high water mark to the seaward limit of State jurisdiction; all natural bodies of water subject to measurable lunar tides and lands thereunder to the mean high water mark; all navigable natural bodies of water and lands thereunder to the mean or ordinary high water mark as the case may be, except privately owned lakes having no public access; all waters in artificially created bodies of water in which exist significant public fishing resources or other public resources, which are accessible to the public by navigation from bodies of water in which the public has rights of navigation; all waters in artificially created bodies of water in which the public has acquired rights by prescription, custom, usage, dedication or any other means. In determining whether the public has acquired rights in artificially created bodies of water, the following factors shall be considered: (i) the use of the body of water by the public; (ii) the length of time the public has used the

area; (iii) the value of public resources in the body of water; (iv) whether the public resources in the body of water are mobile to the extent that they can move into natural bodies of water; (v) whether the creation of the artificial body of water required permission from the State; and (vi) the value of the body of water to the public for navigation from one public area to another public area."

While estuarine waters and public trust areas are treated separately in the State Guidelines, they will be considered as one for the purpose of this plan. The distinction drawn between them in the guidelines is an artificial one and has no basis other than as a political division between the commercial and sport fisheries interest. The significance of both areas is identical as are the appropriate land uses.

The estuarines of any river system are among the most productive natural environments of North Carolina. They not only support valuable commercial and sports fisheries, but are also utilized for commercial navigation, recreation and aesthetic purposes. The high level of commercial and sports fisheries and the aesthetic appeal of coastal North Carolina is dependent upon the protection and sustained quality of our estuarine and river system.

e. Complex Natural Areas

Complex natural areas are defined as areas that have remained essentially unchanged by human activity. The Planning Board feels that the hardwood swamp of the Roanoke Valley and Roquist Pocosin are complex natural areas and should essentially be unchanged in their use.

f. Areas Sustaining Remnant Species

Records as late as 1971 indicate the presence of the red-cockaded woodpecker in association with remnant longleaf and mature loblolly pines.

The osprey still occurs in small numbers - however, there are no recent records of the endangered bald eagle or peregrine falcon. Sturgeon have been taken in the Roanoke River, and the endangered short-nose sturgeon has been recently reported in Albemarle Sound. The endangered bigeye jumprock and the riverweed darter are listed in the Roanoke drainage, as well as the Carolina darter and Roanoke.

g. Areas Containing Unique Geological Formations

There exists a marine molluscean fossil site near Colerain.

h. Registered Natural Landmarks

Bertie County has no registered natural landmarks.

i. Archaeological and Historic Sites

Scenic and prominent high points are prevalent along Bertie County's waterways. Bertie County has an interest in seeing that these areas are preserved. Developers should be made aware whether or not their development is located in a scenic area identified by the County and asked to consider aesthetic values in developing. Future land acquisition for parks or recreation areas should be targeted for these areas.

Twenty-six historic areas have been identified in Bertie County. Four of these are listed on the National Register of Historic Places. The remaining twenty-two sites possibly have as much local historic significance as those listed on the National Register. The County should encourage that these historic sites be retained and that adjacent development be compatible with the sites. Map 5 locates the historic sites which are listed in Table 17.

INVENTORY OF HISTORIC AREAS — TABLE 5 — BERTIE COUNTY

Map No. or Letter	Name	Type of Area	Location	Description	Present Use
1	Woodbourne	Historic	Roxobel	Built in 1810-owned by Norfleet family.	Dwelling
2	Oaklana	Historic	Roxobel	Built in 1825-owned by Tyler family.	Dwelling
3	Fishery	Historic	Colerain	Named by John Campbell who purchased plantation in 1743. Site of world's largest fresh water fishery.	Town
4	Pugh-Walton Mizelle House	Historic	Woodville	1801. Two-story house with a dentil cornice and double portico.	Dwelling
5	Yellow House	Historic	Woodville	Built in 1815-owned by C.B. Griffin	Dwelling
6	King House	Historic	Windsor	ca. 1763 one-and-a half story brick ended house with gambrel roof.	Dwelling
7	Hope Mansion Samuel Cox	Historic	Windsor	Built 1803-birthplace of David Stone, governor and U.S. Senator	House-Museum
8	Locke Craig House	Historic	Windsor	Built 19th Century-birthplace of Gov. Locke Craig	Dwelling

INVENTORY OF HISTORIC AREAS — TABLE 5 (con't) — BERTIE COUNTY

Map No. or Letter	Name	Type of Area	Location	Description	Present Use
9	Hoggard's Mill	Historic	Windsor	Site of town of "Cashie" and site of Bertie Co. Courthouse-1741-1770.	Woods
10	Eden House	Historic	Chowan River	Site of home of Colonial Governors Charles Eden & Gabriel Johnston, 18th century.	Farm & Woods
11	Rascoe's Mill Covered Bridge	Historic	Spruill's Store	Of the 4 remaining covered bridges in N.C. this is the only one connected to a mill.	Pond
12	Indian Woods	Historic		Site of Tuscarora Reservation-est. 1717 after the war of 1717-1713.	Woods
13	Bertie County Courthouse	Historic	Windsor	1909-1941-built in classical style. In process of renovation in similar style.	Courthouse
14	Cobb House	Historic	Windsor	Built 1st quarter of 19th Century. Two-story frame house with a pedimented porch of classical design.	Dwelling

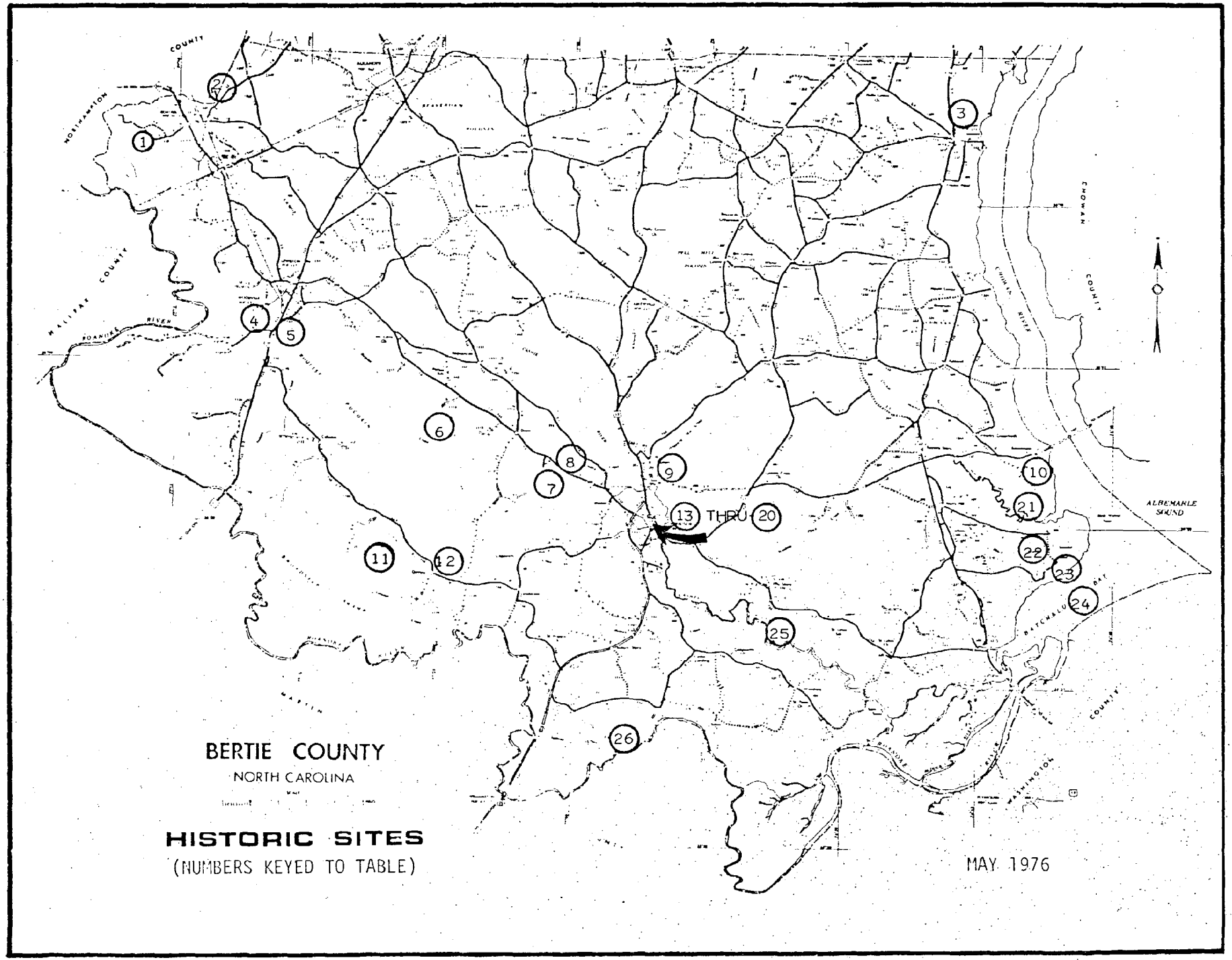
INVENTORY OF HISTORIC AREAS — TABLE 5 (con't) — BERTIE COUNTY

Map No. or Letter	Name	Type of Area	Location	Description	Present Use
15	Gillam, Carroll House	Historic	Windsor	Early 19th Century two-story frame house with one-story porch. Renovated ca. 1960.	Dwelling
16	Gillam, Frank House	Historic	Windsor	ca. 1818 two-story frame house with a one-story porch.	Dwelling
17	Rosefield	Historic	Windsor	ca. 1735-home of William Blount, member of Continental Congress signer of Federal Constitution	Dwelling
18	Windsor Castle	Historic	Windsor	1858, 1908-birthplace of Robert Winston, Superior Court Judge, Patrick Winston, Attorney General of State of Washington, Frances Winston, Superior Court Judge Lt-Gov. of N. C.	Dwelling
19	Gillam, J.B.	Historic	Windsor	ca. 1829-home of David Outlaw, member of House of Commons and U.S. Congress	Dwelling
20	St. Thomas Episcopal Church	Historic	Windsor	Built in 1839-congregation was organized in late 18th century.	Church

Map No. or Letter	Name	Type of Area	Location	Description	Present Use
21	"Bal Gra"	Historic	Chowan River	Site of "Cary's Rebellion", 1712 and frequent seat of government 1710-1722. Home of Thomas Pollock Dept. Gov. of N.C. 1712-1714-1722.	Resort
22	Avoca Plantation	Historic	Merry Hill	Early 19th Century. Homes of Edward Hyde, Seth, Sothel, Samuel Stephens, proprietary governors, were located in this area. Site of home (Batts House) of 1st known permanent white settlers in N.C.; site of the 1st governor of the separate province of N.C.; site of Holy Innocents Church, 1890.	Farm
23	Scotch Hall	Historic	Merry Hill	1835. Home of Charles Pettigrew, 1st bishop elect of Episcopal Church in N.C. Acquired by Capehart family early years of country's independence and still owned by family.	Dwelling

INVENTORY OF HISTORIC AREAS — TABLE 5 (con't) — BERTIE COUNTY

Map No. or Letter	Name	Type of Area	Location	Description	Present Use
24	Batchelor Bay	Historic	Merry Hill	Battle of Batchelor Bay 1864-site where Confederate "Ram Albemarle"sunk seven Union ships.	Bay
25	Thunderbolt	Historic	Cashie River	18th Century small home in original condition.	Dwelling
26	Jordan House	Historic	Windsor	1712-story-and-a-half brick house laid in Flemish bond.	


BERTIE COUNTY
NORTH CAROLINA
HISTORIC SITES
(NUMBERS KEYED TO TABLE)
MAY 1976
1
2
3
4
5
6
7
8
9
10
13 THRU 20
21
22
23
24
25
26
ALBEMARLE SOUND
CHOWAN COUNTY
CHOWAN RIVER
HERTFORD COUNTY
MARTIN COUNTY
WASHINGTON

J. Water Quality

The North Carolina Board of Water and Air Resources classifies all streams in the State as to their best usage. This in effect established water quality standards. They provide a guide in determining what level of treatment is necessary prior to discharge of waste into the streams. A brief explanation of the "best usage" for which waters in each class must be protected is given as follows:

Fresh Waters

Class A-I - Suitable as a source of water supply for drinking, culinary, or food processing purposes after treatment by approved disinfection only, and any other usage requiring waters of lower quality.

Class A-II- Suitable as a source of water supply for drinking, culinary, or food processing purposes after approved treatment equal to coagulation, sedimentation, filtration, and disinfection, etc., and any other best usage requiring waters of lower quality.

Class B - Suitable for outdoor bathing, boating, and wading, and any other usage requiring waters of lower quality.

Class C - Suitable for fish and wildlife propagation. Also suitable for boating, wading, and other uses requiring waters of lower quality.

Class D - Suitable for agriculture and industrial cooling and process water supply, fish survival, navigation, and any other usage, except fishing, bathing, or as a source of water supply for drinking, culinary or food processing purposes.

Swamp Waters. Those waters which are topographically located so as to generally have low velocities and certain other characteristics which are different from adjacent streams draining steeper topography are designed by the letters "SW" in the schedule.

In Bertie County, all streams are classed "C" or "C-SW" except the Chowan, lower 1 mile of the Cashie, the portion of the Roanoke in the area where the Cashie joins it, and the Albemarle Sound, which are classed "B."

3. AREAS WITH RESOURCE POTENTIAL

Bertie County abounds with prime, productive agricultural and forest lands. There has been little encroachment on either by development. While development pressure is likely to remain slight, it is important that these lands be identified.

The most efficient manner of identifying these areas is through soils mapping. The generalized soils map that exists for Bertie County is not sufficient for identifying these areas. A more detailed map is needed. Action by the North Carolina General Assembly, which stated that forest land would not be taxed on standing timber, has added further impetus to the need for a detailed soils map.

a. Forestry and Agricultural Lands

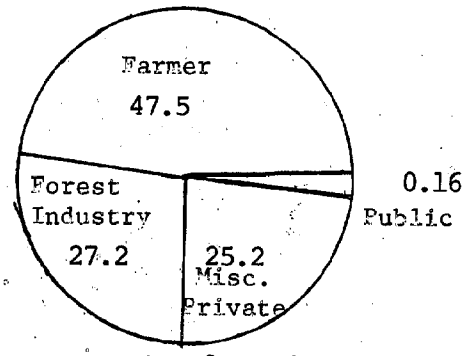
Of Bertie County's total land area (443,500) acres, 319,754 acres, or 72% of it, is in commercial forest land. Bertie County's topography, soils and climate make it one of the most productive forest areas in the State.

Almost half of the county's forest land is owned by farmers. The forest industry owns 27.2% of the forest land in the county. Most of the remaining acres are owned by individuals in other occupations.

Figure 1 Ownership

Commercial Forestland

Public	298a	0.1%
Forest Industry	86,947	27.2%
Farmer	151,966	47.5%
Misc. Private	80,543	25.2%
	319,754a	100. %



Several forest types are evident in Bertie County ranging from the highly productive hardwood sites of the broad river bottoms to the pure pine types of the pocosins and ridges. The percentage of the different types

Table 19

Net Annual Growth and Removal of Growing Stock and Saw-timber on Commercial Forest Land, By Species Group, Bertie County

	GROWTH			REMOVAL		
	All Species	Softwood	Hardwooe	All Species	Softwood	Hardwood
Growing Stock M. Cu. Ft.	19,491	7,766	11,725	32,584	15,919	16,665
Saw-Timber MBF	77,046	40,453	36,593	149,723	80,749	68,974

Agriculture has historically played a major role in the lifestyle of Bertie County and continues to do so today. Of Bertie County's total land area, 282,931 acres, or 63.8 percent, are in farms. Almost one third of this land is used for growing crops (32.3%), while the majority (66.2%) is in woods and some homesites. Pasture land comprises 1.5 percent of the farm land in Bertie County.

Table 20 examines some selected agricultural statistics for Bertie County in the years of 1959, 1964, and 1969. An analysis of this table shows that farms in the county are becomming fewer in number but larger. Average value of the farms, both per farm and per acre, has risen dramatically.

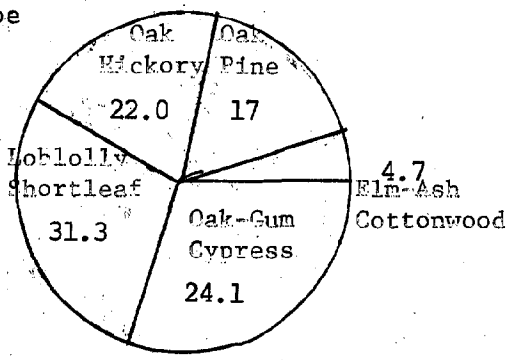
The number of farms by class category breaks the farms in the county down into classes based on the value of products sold. Class 1 farms sold $40,000 or more in products during the sample year. Class 6 farms sold from $50 to $2,499. A comparison of 1964 and 1969 indicates that the farms in Bertie County are becomming more large-scale. Class 1 and 2 comprised only 7.3 percent of the farms in Bertie County in 1964, whereas in 1969, these two classes comprised 15.4% of the county's total. All of those farms which were upgraded came out of classes 3 and 4. The percentage of farms comprising Classes 5 and 6 remained at approximately 26 percent during 1964-1969, although the number of farms in these two lower classes did decrease.

that comprise Bertie County's 319,754 acres of forest land are examined below.

Figure 2 Bertie County Forest Type

Type Groups

Loblolly - Short Leaf	31.3%
Oak - Pine	17.0%
Oak - Hickory	22.9%
Oak - Gum - Cypress	24.1%
Elm - Ash - Cottonwood	4.7%
	100.0%



In 1974, there were 364.5 million cubic feet of growing stock and 1.7 billion board feet of saw-timber in Bertie County. Below is a breakdown of these volumes by species group.

Table 18

Volume of Growing Stock and Saw-timber by Species Group, Bertie County

	All Species	Pine	Other Softwood	Soft Hardwood	Hard Hardwood
Growing Stock (Thousand Cu. Ft.)	503,674	177,273	12,781	175,491	116,129
Saw-Timber (Thousand Board Feet)	1,701,159	750,276	54,271	569,755	326,857

During the past five years the N. C. Forest Service has sold 3,747,300 tree seedlings in Bertie County. Despite this effort at reforestation the rate of removal exceeds the rate of growth. The following table examines the net annual growth and removal by species group. In both growing stock and saw timber the rate of removal is almost double the rate of growth. This indicates overcutting during the period that the survey was taken. Due to fluctuating market conditions, it may not hold true over a period of several years.

TABLE 20

BERTIE COUNTY

SELECTED AGRICULTURAL STATISTICS

ITEM	1959	1964	1969
No. Farms	2447	1785	1477
Acres in Farms	227,569	191,500	193,966
Average Size of Farms	93.0	107.3	131.3
Average Value of Land and Buildings			
Per Farm	$17,498.	$24,543.	$41,259.
Per Acre	$204.53	$222.76	$309.00
No. of Farms by Class			
Class 1		28	68
Class 2		102	160
Class 3		382	289
Class 4		577	311
Class 5		298	243
Class 6		165	147
Part Time		95	153
Part Retirement		137	105

Source: U. S. Census of Agriculture, 1959, 1964, 1969.

TABLE 21

SELECTED AGRICULTURAL CROPS

ACRES, PRODUCTION AND VALUE, BERTIE COUNTY 1973

CROP	Areas Harvested	Production	Value ($)
Corn for Grain	35,200	3,450,000 Bushels	$7,994,000
Corn for Silage	150	2,080 Tons	------
Soybeans	19,700	591,000 Bushels	3,298,000
Wheat	300	10,800 Bushels	29,150
Oats	25	1,130 Bushels	1,200
Peanuts	23,250	64,170 Lbs.	10,652,000
Cotton	955	625 480-16 bales	180,500
Sweet Potatoes	60	7,500 Hundredwt.	52,500
Irish Potatoes	20	3,100 Hundredwt.	25,400
All Hay	1,000	1,000 Tons	43,000
Tobacco	4,280	9,563,000 Lbs.	8,511,000
TOTAL	84,940 Acres		$30,786,750

Source; 1974 N. C. Agricultural Statistics, N. C. Department of Agriculture.

A sharp increase occurred in the number of part-time farms. These are farms where the operator was employed off the farm for more than 100 days. More people are "going to town" for primary employment, and farming is becoming a secondary occupation-vocation.

Table 21 examines selected agricultural crops in Bertie County. It shows that Bertie County's chief agricultural crop is peanuts, followed closely by tobacco and corn. These three crops comprise approximately two-thirds of the County's crop production by value.

A detailed soils map would allow county officials to identify prime agricultural and forestry lands.

b. Potentially Valuable Mineral Sites

To date, Bertie County is not known to contain any potentially valuable mineral sites other than sites for the extraction of sand.

c. Publicly Owned Lands and Other Non-Intensive Outdoor Recreation Lands

There are no publicly owned non-intensive outdoor recreation lands in Bertie County. Much of the County's privately owned forest lands are leased to hunting clubs for their use.

d. Privately Owned Wildlife Sanctuaries

There are no privately owned wildlife sanctuaries in Bertie County.

B. CAPACITY OF COMMUNITY FACILITIES

1. Identification, Design Capacity and Utilization of Existing Water and Sewer Services

Water and Sewer

Water and sewer lines have been called the umbilical cords of modern development. Today's development, whether it be residential, commercial or industrial, is often dependent upon water and sewer services. Some communities have tried to control when and where development takes place by providing or denying water and sewer services.

Below are listed the water and sewer systems in Bertie County and an analysis of them. The information is taken from a recent study done for the Mid-East Commission, The Region Q Water Management Plan.

WATER FACILITIES

The Town of Askewville

Existing Facilities and Conditions

The Town of Askewville is a small, rural community just east of U. S. Highway 13, located near the center of Bertie County.

A water distribution system has been recently constructed in Askewville serving approximately 80 connections. Water is supplied by two wells, each having a capacity of 100 gpm. Water storage is provided by a hydropneumatic tank. The groundwater requires no treatment prior to distribution.

THE TOWN OF AULANDER, THE MILLENNIUM AND S. AULANDER WATER ASSOCIATION

Existing Facilities and Conditions

Town of Aulander

The Town of Aulander presently utilizes groundwater as its source of supply. The water system consists of two wells with a combined average yield of 700 gpm, a 225,000 gallon ground tank, a 75,000 gallon elevated storage tank, and a distribution system which serves most of the town's 1000 residents. Only chlorination is required before the water enters the distribution system.

The South Aulander Water Association, Inc.

This water system is located along N. C. Highway 305, immediately south of Aulander in Bertie County. The water system serves approximately 30 families and one school. The water supply comes from one deep well which has a yield of 75 gpm. Water from this well is not treated, but is pumped directly into a 1925 gallon hydropneumatic pressure tank. The distribution system consists of small mains and offers no fire protection.

The Millennium Water Association

Millennium is a small rural community approximately one-half mile north of Aulander along N. C. Highway 350, in the southwestern portion of Hertford County.

The community, at present, is served by the Mellennium Water Association, which was organized in 1964. The system consists of one deep well which has a pumping capacity of 160 gpm, a 5,000 gallon hydropneumatic pressure tank, and distribution mains. Even though adequate fire protection is not available, hydrants are located at strategic positions in order to fill the volunteer fire department water truck. The present system serves approximately 300 people.

THE TOWN OF COLERAIN

Existing Facilities and Conditions

The Town of Colerain, located in the northeast corner of Bertie County on the Chowan River, has a municipal water system which serves the residents of the community. The water system consists of two wells, one 600 gpm and one 60 gpm; a distribution system; and a 35,000 gallon elevated storage tank. At present, the water does not require treatment.

THE TOWN OF KELFORD

The Town of Kelford is located in the northwest corner of Bertie County, approximately two miles south of Roxobel. The town obtained its municipal water supply system in 1965. The system consists of one 75,000 gallon elevated storage tank, a distribution system with meters and hydrants, and one well which produces an average yield of 200 gpm. Another well exists which has no pump and cannot, therefore, be used at this time.

THE TOWN OF ROXOBEL

Existing Facilities and Conditions

The Town of Roxobel is located approximately seven miles from the Town of Aulander, in the northwest corner of Bertie County. The water system, installed in 1964, consists of two deep wells supplying a combined yield of 300 gpm, one 75,000 gallon elevated storage tank, and a distribution network with fire hydrants.

THE TOWNS OF LEWISTON AND WOODVILLE

Existing Facilities and Conditions

The neighboring towns of Lewiston and Woodville are located in the northwest corner of Bertie County, about five miles south of Kelford. They jointly operate a water utility association. The water association serves both towns adequately with distribution lines extended to most areas within both towns. The system consists of two wells, yielding a combined total of 300 gpm; a 100,000 gallon elevated storage tank; and a distribution system with fire hydrants.

THE TOWN OF POWELLSVILLE

Existing Facilities and Conditions

The water system that serves the Town of Powellsville was constructed in 1954, and serves almost the entire town. The water supply comes from two wells, which have a combined yield of 115 gpm. The water is chlorinated and then stored in two pneumatic tanks having a 1,000 gallon capacity each. There is also one 10,000 gallon elevated storage tank in the system.

The existing water system is insufficient in the following areas: there is not enough storage capacity; fire protection is not provided; distribution lines are too small; and not enough surplus capacity exists to attract any potential industry.

The East Powellsville Water Corporation, located immediately east of Powellsville, serves approximately 200 people. The system is in two sections, each having one well. Neither section is connected to the other nor to the Powellsville system.

The system to the northeast of Powellsville consists of one well, yielding 50 gpm, and a 760 gallon pressure tank.

The system to the southeast of Powellsville consists of one well yielding 100 gpm, and a 2500 gallon pressure tank.

THE TOWN OF WINDSOR

Existing Facilities and Conditions

The Town of Windsor operates and maintains a municipal water system supplied by three deep wells which have a combined pumping capability of 1100 gpm. The water requires no treatment. Storage is provided by a 0.100 mg ground tank and a 0.300 mg elevated tank for a combined storage capacity of 0.400 mg. The town also serves the South Windsor Water Association which extends south of Windsor on U.S. Highway 17/13 approximately 2 miles. The water association purchases all its water from the Town of Windsor.

WASTEWATER FACILITIES

THE TOWN OF ASKEWVILLE

Existing Facilities and Conditions

Although the Town of Askewville recently constructed a water system, the town does not have municipal wastewater facilities. The residents of the town presently rely on individually owned on-site wastewater disposal systems. Soil in the Askewville area consists primarily of the Lenoir, Craven and Bladen Associations. The soils are generally not suitable for the efficient operation of septic tank filter fields. The streams in the Askewville area have 7 day/10 year low flows of 0 cfs.

WASTEWATER FACILITIES

THE TOWN OF AULANDER

Existing Facilities and Conditions

The Town of Aulander has a collection system and a treatment facility effecting primary treatment. The treatment facility, constructed in 1962, has a design capacity of 0.08 mgd. The collection system presently serves about 650 people. The average daily flow is approximately 0.06 mgd. Treated effluent is discharged into Fort Branch, a tributary of Ahoskie Creek.

The NC/DEM has requested that the present treatment facility be replaced with a new one which effects a tertiary degree of treatment. Disinfection also needs to be added to the treatment process.

THE COMMUNITY OF MILLENNIUM

The residents of Millennium presently utilize various on-site methods for wastewater disposal. Soils in the area of Millennium are of the Lenior, Craven, Bladen Associations which are generally unsuitable for wastewater disposal by use of septic tanks and absorption fields.

THE COMMUNITY OF SOUTH AULANDER

This community is similar to Millennium in that it also depends on various on-site methods for the disposal of wastewater. Soil conditions are generally not conducive to the use of on-site disposal units.

THE TOWN OF COLERAIN

Existing Facilities and Conditions

The wastewater collection and treatment facilities for the Town of Colerain serve the area within the town limits. The treatment facility is an Imhoff tank, with a capacity of 0.050 mgd. Wastewater treatment is currently inadequate. Effluent is discharged into the Chowan River.

The NC/DEM has requested that the treatment facility be replaced with one which would utilize a higher degree of treatment.

The residents in the outlying areas of Colerain are presently relying on various on-site methods for wastewater disposal. With the high water table that exists in this area, absorption fields are often subject to flooding. This presents a possible contamination problem to nearby groundwater sources.

THE TOWN OF KELFORD

Existing Facilities and Conditions

The Town of Kelford is similar to Roxobel in that the residents depend on septic tanks and absorption fields for the disposal of wastewater. The soils are also favorable, in that there are only moderate limitations to the use of on-site disposal units.

THE TOWN OF ROXOBEL

Existing Facilities and Conditions

Residents of the Town of Roxobel presently utilize individual on-site disposal systems for wastewater disposal. Soils in this area are comprised mainly of the Wagram, Occilla, and Kalmia Soil Associations which are generally suitable for the use of septic tanks and absorption fields. The present population is expected to drop significantly by the year 2020.

THE TOWN OF POWELLSVILLE

Existing Facilities and Conditions

The residents of Powellsville presently rely on individually owned on-site systems for wastewater disposal. The soils in the region are comprised of the Lenoir, Craven and Bladen Soil Associations, which severely limit the efficient operation of septic tank absorption fields. The town's population has dropped 5% in the past ten years, and is expected to decrease throughout the planning period.

THE TOWNS OF LEWISTON AND WOODVILLE

Existing Facilities and Conditions

The wastewater collection and treatment system for both towns is operated by the Lewiston-Woodville Utility Corporation. The 0.070 mgd secondary wastewater treatment plant was constructed in 1970 and utilizes an extended aeration process. The collection system serves most of the area within the corporate limits of both towns. The treatment facility is presently operating at approximately 60% capacity. The Cashie River, which is classified C-swamp, receives the effluent from the treatment facility.

THE TOWN OF WINDSOR

Existing Facilities and Conditions

The Town of Windsor operates and maintains wastewater collection and treatment facilities. A new 1.150 mgd secondary treatment facility is under construction at the site of the existing lagoons. This facility will be operational in September 1975. The collection system is presently experiencing excessive infiltration. Effluent from the existing and proposed treatment facilities is discharged into the Cashie River.

Bertie County does not operate any water or wastewater systems.

2. Identification, Design Capacity and Utilization of Existing Schools

The Bertie County Board of Education currently operates 12 elementary, one (1) junior high and one (1) senior high school. The elementary schools are located throughout the County and serve children in kindergarten through grade seven in each attendance area. The junior and senior high schools serve the entire county.

The Board of Education has prepared a proposal for reorganizing the schools. It was felt that several of the elementary organizations are not conducive to good educational programs and revisions are necessary in order to improve instruction. Also several elementary facilities are obsolete and in very poor structural condition.

Table 22 lists each attendance area, schools presently serving that area, present membership, projected membership and organization in 1977-78. Table 23 lists the present facilities, capacity, enrollment, pupil-teacher ratio, grade taught and year elected plus additions.

The Board of Education, in their proposal for reorganization, states the following:

"The declining enrollment throughout the County indicates an urgent need to reorganize all schools in order to maintain the philosophy and concept of community schools to serve local students.

Average daily membership has declined from 6118 in 1968-69 to 5559 in 1972-74. This trend of declining population is expected to continue through 1978 and then level off with a County population of 16,400. By 1978, membership in all schools is anticipated at 4492. Membership should remain stable around 4400 after 1980. (Note that the population projections differ from others in this study.)"

TABLE 22

BERTIE COUNTY

PLAN FOR REORGANIZATION

Attendance Area	Schools Serving Area by Grades	73-74 Membership	Projected Plans For Use	Resulting Organization 77-78	77-78 Membership
Askewville	Askewville 1-7	194	Add-1 Class	K-8	237
Aulander	Aulander 5-7	125	Abandon	K-8	264
	South Aulander K-4	187	Addition		
Powellsville	C.G. White K-7	310	N C*	K-8	246
Colerain	Colerain 5-7	296	Renovate	K-8	749
		348	Renovate		
West Bertie	J. B. Bond 3-5	304	Abandon	K-8	530
	West Bertie K-2	201	Addition		
	Roxobel-Kelford 6-7	180	Abandon		
Windsor	W. S. Etheridge K-4	551	Abandon	Not In Use	0
	Windsor 5-7	515	Abandon		
Merry Hill	J. P. Law K-7	173	N C*	K-8	181
Bertie Jr.	Bertie Jr. 8-9	1002	Convert to K-8 Windsor Dist.	K-8	794
Bertie Sr.	Bertie Sr. 10-12	1188	Convert to 9-12 Senior High Additions	9-12	1491
Total		5572			4492

*NC - No Change

TABLE 23

BERTIE COUNTY, NORTH CAROLINA

Public School Facilities
1973-74 School year

SCHOOL	Capacity	Enrollment	Teacher Allotment	Pupil/ Teacher Ratio	Grade Taught	Yrs. Erected Plus Additions
Askewville Elementary	200	204	7	29.1	1-7	1964
Aulander Elementary	420	131	4	32.7	5-7	1914,26,41
Bertie Junior High	800-1,000	1,058	51½	20.7	8&9	1962,68
Bertie Senior High	900-1,100	1,304	61½	21.4	10-12	1962,68,70,72
C. G. White Elementary	575-625	333	12	27.7	K-7	1951,70
Colerain Elementary	500	305	12	25.4	5-7	1922,39,49
John B. Bond Elementary	460	322	11	29.2	K,3-5	1935,52
John P. Law Elementary	225	183	7	26.1	K-7	1961
Roxobel/Kelford Elementary	330	212	6	35.3	6&7	1928
South Aulander Elementary	225	201	8	25.1	K-4	1964
West Bertie Elementary	225	210	8	26.2	K-2	1961
West Colerain Elementary	200	373	13	28.7	1-4	1932,61
W. S. Etheridge Elementary	780	568	23	24.7	NG	1925,46,52
Windsor Elementary	660	528	21	25.1	NG	1926,41,47

"Another factor to be considered with declining population is the extreme high cost of construction. Under present organization, Bertie County would need approximately $4,000,000 to meet current building needs.

"By reorganizing all school districts, the amount needed could be reduced to approximately $2.7 million. Of the $2.7 million needed, $1.4 million is available from 1973 State Bond Funds. Bertie County would then need only $1.3 million to provide convenient, modern and adequate facilities for all children in the County."

In addition to the above public educational institutions, primary and secondary education is provided by two private institutions, Roanoke-Chowan Academy in Windsor and Lawrence Academy in Merry Hill.

Post-secondary education is offered by Roanoke-Chowan Technical Institute in Ahoskie and Martin Technical Institute in Williamston.

3. Identification, Design Capacity and Utilization of Primary Roads

Bertie County's primary roads consist of U. S. 17, running from Williamston with a four-lane road to Windsor and then a two lane road to Edenton; U. S. 13, running from Williamston, through Windsor, north through Powellsville; U. S. 11, running from Oak City in Martin County, through Lewiston, to Ahoskie in Hertford County; N. C. 308, running from Windsor, through Lewiston, Kelford and Roxobel to Rich Square in Northampton County; N. C. 305, running from 5 miles north of Windsor, through Aulander to Rich Square; N. C. 350, running from Aulander to Ahoskie and from Colerain to Powellsville; and N. C. 45 running from Washington County, through Colerain to Winton in Hertford County.

In order to determine utilization, the peak 24-hour traffic count compared design capacity. The design capacity of the four-lane portion

of U. S. 17-13 is not shown to the low level of utilization vis-a-vis the design capacity. The traffic counts are only for areas in county jurisdiction.

Table 24 examines percentage utilization.

TABLE 24

UTILIZATION OF PRIMARY ROADS

BERTIE COUNTY, 1972

Road	Design Capacity	Max. 24-hour Count	% Utilization
U.S. 17	10,920	4,100	37.6%
U.S. 13	10,920	4,000	36.6%
U.S. 11	10,920	1,900	17.4%
N.C. 308	7,200	2,000	27.8%
N.C. 305	7,200	1,510	21.0%
N.C. 350	7,200	2,600	36.1%
N.C. 45	7,200	1,650	22.9%

V. ESTIMATED DEMAND

A. POPULATION AND ECONOMY

1. Population

Accurately projecting future population figures is recognized as an almost impossible task, yet it is recognized that it is essential to attempt such projections in order to plan for future development. Providing services, such as schools, water and sewer, require that local government make some estimate of the demand that might be placed on these services.

Currently, at least two different population projections are being used in Bertie County. The School Board is planning future school services based on population projections indicating that the county will decline in population from 20,528 in 1970 to 16,437 in 1980. A recently completed water and sewer plan, on the other hand, uses population projections showing population in 1970 at 20,528,a drop in 1980 to 19,500, up to 20,600 in 1990. Still another set of projections recently issued by the North Carolina Department of Administration, source of the other projection as well, shows population rising from 20,528 in 1970, to 20,880 in 1980, to 21,110 in 1990.

Using different population projections for planning different services could mean that the school could be underdesigned, or the water and sewer systems overdesigned. Bertie County should reach some concensus on which projections are to be used, or at a minimum, ensure that facility plans are flexible enough to allow for variations between the projections.

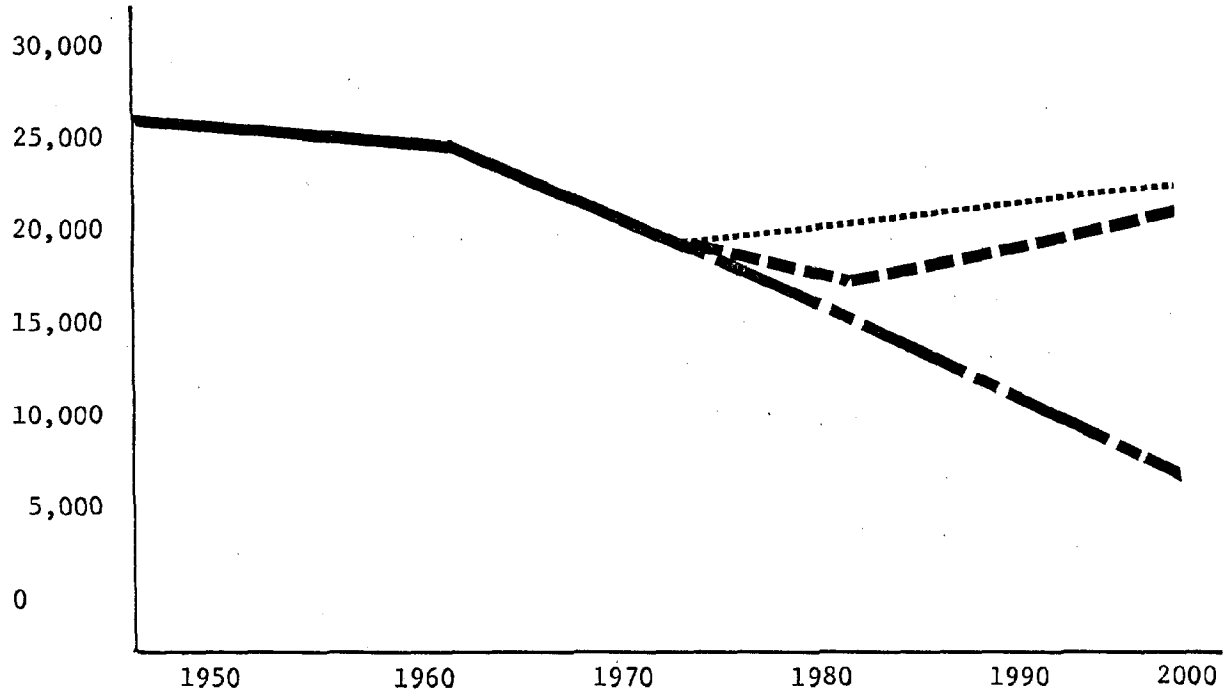
The following table breaks down the most recent population projections for the county into township and municipal projections. The accompanying figure compares the various projections.

Many forces affect local population change, such as national population trends and national economic conditions, local economic trends and birth rates.

Figure 3

POPULATION PROJECTIONS

Bertie County



[1]Projections used in school planning.

[2]Most recent Department of Administration projections.

[3]Projections used in water and sewer planning.

TABLE 25

COUNTY, TOWNSHIP AND MUNICIPAL PROJECTIONS

Bertie County, 1970-2000

	1970	1980	1990	2000
Bertie County	20,528	20,880	21,110	21,700
Colerain Twp.	4,069	4,170	4,230	4,360
Indian Woods Twp.	874	770	670	600
Merry Hill Twp.	630	600	500	420
Mitchells Twp.	2,373	2,450	2,480	2,550
Roxobel Twp.	1,871	1,830	1,790	1,770
Snakebite Twp.	1,036	830	720	620
Whites Twp.	2,006	2,060	2,180	2,330
Windsor Twp.	6,141	6,730	7,190	7,770
Woodville Twp.	1,528	1,440	1,350	1,280
Colerain Town	373	382	388	400
Powellsville	247	226	229	237
Aulander	947	923	834	961
Kelford	295	302	295	292
Roxobel	347	309	302	299
Askewville	247	270	289	312
Windsor	2,199	2,494	2,789	3,150
Lewiston	327	308	289	274
Woodville	253	250	235	223

Therefore, the population projections provided should be used as indications. Local conditions, such as the location of the Perdue plant in the Lewiston-Woodville area, should be considered in looking at the figures. The location of that particular plant in the Woodville-Lewiston area would probably indicate that the population would not decline and if it did, not at the rate projected.

The Bertie County Planning Board feels that all of the projections listed are too low. It is felt that in view of the county's success in attracting industry in the past few years, coupled with national population trends which show a reversal of past rural to urban migration, Bertie County can expect a faster rate of growth than projected.

Bertie County is projected to increase in population by 582 between 1975 and 1985.

The capability of the land and water to sustain the above projected population is largely defined by the means used to dispose of sewage. Bertie County has an abundant supply of ground water, and water supply provides no constraints to growth.

If the projected population is accommodated in dwellings utilizing septic tanks, it is conceivable that the projected population could exceed the capacity of the land and water to sustain it. In the coastal area, the detrimental effects of sewage disposal on ground and surface water resources represent an important example of physical limitations of development. After the density is reached which the land can effectively assimilate in its natural state, then any increased development results in a diminution of the quality of ground and surface waters. Up to a certain point, which varies depending on the species, this diminution in water quality can be tolerated by marine organisms which dwell in the surface waters. Also, up to a certain point, the diminution in surface and ground waters can be tolerated by humans. However, after one of

these threshold "toleration" points is reached, the waters become unusable or unacceptable for use by marine organisms and humans. Beyond such a threshold a different order of public investment is needed to prevent degradation. Thus, upon approaching these thresholds, and there are no easily determinable indices by which these thresholds can be established, certain planning decisions need to be made. Basically, these decisions involve determining whether to limit further increases in density, to put money and energy into the system to provide alternative methods of waste disposal, or to tolerate the diminution in water quality as an acceptable "cost" of further development. If neither one of the first two choices is made, then the third alternative is chosen by default. It is clear that at some point density must be regulated or water quality will diminish. It is not possible to choose both alternatives without expending money and energy on alternative solutions to the problem.

Since it is unknown at what density and where the projected population will be accommodated and to what extent means other than septic tanks will be used for sewage disposal, it is impossible to determine the exact capacity of the land and water to sustain population growth. During the implementation of this plan, it will be necessary to constantly monitor the impact of new development on the land and water.

Seasonal population has not traditionally played a major role in Bertie County. It is anticipated that the amount of seasonal population will increase slightly in the future, drawn to the amenities offered here. The major impacts this will have locally are 1) an increase in service related activities and 2) increased demands made on selected local governmental services such as solid waste disposal.

2. Economy

The opening chapter examines past trends and present conditions in Bertie County's economic environment. In order to make decisions for the future, it is necessary to understand forces at work in our national economy which will influence Bertie County. What follows is a look at a few of these forces.

Agriculture has played a dominant role in Bertie County, but that role is changing. In the past agriculture was the major employer in the County. With changes in agricultural practices, mainly mechanization, the number of workers needed in agriculture has been reduced. There are indications that the impact of mechanization has leveled off. In the future there should be fewer jobs lost due to mechanization, but it is likely that the remaining jobs will demand a higher level of training and skills.

For the past few decades there has been a nationwide trend of population migration from rural areas to urbanized ones. This trend, along with the mechanization of agriculture, was the cause of Bertie County's population loss. There now appears to be a trend emerging of migration from the urban areas to rural areas. If Bertie County wishes to recoup some of their population loss, then by providing job opportunities and other benefits, they might be able to capture a number of the new migrants.

There recently has emerged a national recognition that resources are limited. The impact of this is just making itself felt on the national economy. The resulting competition of limited resources will have both positive and negative impact.

Perhaps the major negative impact will be in the area of higher energy cost, particularly gasoline. Most workers not employed in agriculture are dependent upon the private automobile to transport them from place of

residence to place of work. With higher gasoline cost, it will become increasingly difficult for workers to live in Bertie County and commute outside the County to work, as 1,006 did in 1970. These workers will be under increasing economic pressure to live closer to their place of work. If Bertie County is unable to provide more employment opportunities, it will continue to lose population.

The limited resources will have a positive impact on Bertie County in that the long range prospect for agriculture and agriculturally related businesses (this includes timber) is good. The County remains relatively rich in natural resources which will bring an increasingly higher price in the market place.

B. FUTURE LAND NEEDS

The Coastal Area Management Act guidelines direct that a gross ten year estimate of land needs be allocated to the appropriate land classes. In doing this the estimated population growth is allocated to the Transition, Community and Rural land classes of Land Classification System. This system is explained in detail in Part Three of this plan.

Bertie County's estimated population increase from 1975 to 1985 is 582. The County's policy is to upgrade existing population concentration by providing them with services such as water and sewer. Therefore, the entire future land need is allocated to Transitional.

C. COMMUNITY FACILITIES DEMAND

1. Ten Year Population Increase

As discussed previously, Bertie County's population is expected to increase by 582 by 1985. Local desires would place that population at a higher level. The two major growth areas will most likely be Windsor and the Lewiston-Woodville area.

2. Services Needed to Accommodate Projected Population

Bertie County will be able to absorb the projected population and more without need for extensive additions to existing facilities. As noted previously, the school system is undergoing modification. When completed, the schools will be able to handle the additional population increase without an increase in facilities.

A '201' wastewater treatment study is scheduled for the Lewiston-Woodville area and will include Roxobel and Kelford. Completion of this study will qualify the area for federal monies for wastewater treatment. This money would be spent in the area impacted by the Perdue plant location.

Existing water systems and new ones to serve communities in the county could be financed through FHA loans and grants and be self-supporting through user fees.

The present road system is capable of accommodating anticipated population increases.

3. Ability of Local Economy to Finance Service Extension

A local government's ability to provide services to its citizens is limited by the amount of revenues it can raise. Local governments in North Carolina depend basically on four sources of revenue. A portion comes from grants from State and Federal government. While these are important sources of revenue, local government has limited control over how much money they will receive and how it will be spent.

A second source of funding and traditionally the most important, is local property taxation. Bertie County lacks the heavy industry that is often used to obtain a high per capita appraisal value; therefore, the County is limited in the burden it can place on local taxpayers.

A relatively new source of income for local governments in North Carolina is the local sales tax. Due to a low level of per capita income, plus a lack of shopping areas in the County, Bertie County has a per capita retail sales level of only $1,193 -- the lowest in Region Q. This limits potential revenue from the local sales tax.

Other revenues are collected from miscellaneous sources, such as ABC revenues, licenses, and fees. Table 26 looks at county and municipal tax and debt data.

TABLE 26

COUNTY AND MUNICIPAL DABT DATA [1]

Local Government	Appraised Value	Per Capita Appraised Value	Total All Revenues	Tax Rate	Bonds Outstanding	Per Capita Debt
Bertie County	$119,929,830	$5,842	$1,129,410	$ .85	$869,000	$ 42.81
Askewville	720,006	2,915	5,253	.50	-0-	-0-
Aulander	5,292,848	5,589	111,842	1.65	-0-	-0-
Colerain	2,335,744	6,262	10,689	1.00	-0-	-0-
Kelford	791,216	2,682	31,093	1.25	48,500	167.24
Lewiston	1,676,849	5,128	47,058.	1.25	45,000	140.62
Powellsville	923,175	3,738	21,728	.50	-0-	-0-
Roxobel	1,583,089	4,562	38,243	.80	40,000	117.65
Windsor	13,228,421	6,016	2,288,217	1.00	200,000[2]	-0-
Woodville	1,713,180	6,771	10,458	.20	-0-	-0-

[1]County data is for 1974-75. Municipal data is for 1973-74.

[2]Bond anticipation notes.

Source: North Carolina Local Government Commission and local governments. Computation by N.C. Department of Natural and Economic Resources.

VI. POTENTIAL AREAS OF ENVIRONMENTAL CONCERN

The North Carolina Coastal Area Management Act states that the local land use plan "shall give special attention to the protection and appropriate development of areas of environmental concern" designated by the Coastal Resources Commission. That is the purpose of this part of the plan.

Those areas of environmental concern which are listed in the "State Guidelines for Local Planning in the Coastal Area" and occur in Bertie County will be described, significance discussed, a policy objective stated, and appropriate land uses prescribed.

Once the areas of environmental concern (AEC) have been adopted by the Coastal Resources Commission, then development taking place within an AEC will require a permit. Major developments must receive their permit from the State while minor developments can be administered by local government. However, the identification of AEC's in this document will not serve for purposes of permit letting. This identification is for planning purposes only.

HISTORIC PLACES

DESCRIPTION

Historic places are defined as historical, archaelogical, and other places and properties owned, managed, or assisted by the State of North Carolina pursuant to G. S. 121; and properties or areas that have been designated by the Secretary of the Interior as National Historic Landmarks.

Specifically, these sites in Bertie County are: the King House and Hope Plantation.

SIGNIFICANCE

Historic resources are both non-renewable and fragile. They owe their significance to their association with American history, architecture, archaelogy and culture. Properties on or approved for the National Register of Historic Places may be of national, state or local significance.

POLICY OBJECTIVE

To protect and/or preserve the integrity of districts, sites, buildings and objects in the above categories.

APPROPRIATE LAND USES

Adjacent development should be in keeping with the character of the historic place. Local government can ensure this by historic zoning, establishing a historic properties commission and careful planning of facilities.

ESTUARINE WATERS AND PUBLIC TRUST AREAS

DESCRIPTION

Estuarine waters are defined in G.S. 113-229 (n) (2) as, "all the water of the Atlantic Ocean within the boundary of North Carolina and all the waters of the bays, sounds, rivers, and tributaries thereto seaward of the dividing line between coastal fishing waters and inland fishing waters, as set forth in an agreement adopted by the Wildlife Resources Commission and the Department of Conservation and Development filed with the Secretary of State entitled 'Boundary Lines, North Carolina Commercial Fishing - Inland Fishing Waters, revised March 1, 1965,'" or as it may be subsequently revised by the Legislature.

Public trust areas are defined through the CAMA Planning Guidelines as "All waters of the Atlantic Ocean and the lands thereunder from the mean high water mark to the seaward limit of State jurisdiction; all natural bodies of water subject to measurable lunar tides and lands thereunder to the mean high water mark; all navigable natural bodies of water and lands thereunder to the mean or ordinary high water mark as the case may be, except privately owned lakes having no public access; all waters in artificially created bodies of water in which exists significant public fishing resources or other public

resources, which are accessible to the public by navigation from bodies of water in which the public has rights of navigation; all waters in artificially created bodies of water in which the public has acquired rights by prescription, custom, usage, dedication or any other means. In determining whether the public has acquired rights in artificially created bodies of water, the following factors shall be considered: (i) the use of the body of water by the public; (ii) the length of time the public has used the area; (iii) the value of public resources in the body of water; (iv) whether the public resources in the body of water are mobile to the extent that they can move into natural bodies of water; (v) whether the creation of the artificial body of water required permission from the State; and (vi) the value of the body of water to the public for navigation from one public area to another public area."

While estuarine waters and public trust areas are treated separately in the State Guidelines, they will be considered as one for the purpose of this plan. The distinction drawn between them in the guidelines is an artificial one and has no basis other than as a political division between the commercial and sport fisheries interest. The significance of both areas is identical as are the appropriate land uses.

SIGNIFICANCE

The estuaries of any river system are among the most productive natural environments of North Carolina. They not only support valuable commercial and sports fisheries, but are also utilized for commercial navigation, recreation and aesthetic purposes. The high level of commercial and sports fisheries and the aesthetic appeal of coastal North Carolina is dependent upon the protection and sustained quality of our estuarine and river systems.

POLICY OBJECTIVE

To preserve and manage our estuarine waters and public trust areas so as to safeguard and perpetuate their biological, economic and aesthetic values.

APPROPRIATE USES

Appropriate uses shall be consistent with the above policy objective. Highest priority shall be given to the conservation of estuarine waters and protection of public trust rights. The development of navigation channels, the use of bulkheads to prevent erosion, and the building of piers or wharfs are examples of appropriate land use, provided such land uses will not be detrimental to the biological and physical estuarine function and public trust waters. Projects which would directly or indirectly block or impair existing navigation channels, increase shoreline erosion, deposit spoils below mean high tide, cause adverse water circulation pattern, violate water quality standards, or cause degradation of shellfish waters are generally considered incompatible with the management of estuarine waters and public trust areas.

Development control over development occurring in estuarine water or public trust areas is presently exercised by State or Federal government. Local government can assist in managing these areas by controlling development adjacent to these areas. Devices such as setback lines, minimum lot sizes, septic tank ordinances, flood plain ordinances and sedimentation control can be used to control adjacent development which could impair estuarine waters or public trust areas.

COMPLEX NATURAL AREAS

DESCRIPTION

Complex natural areas are defined as lands that support native plant and animal communities and provide habitat conditions or characteristics that have remained essentially unchanged by human activity. Such areas are surrounded by landscapes that have been modified but that do not drastically alter the conditions within the natural areas or their scientific or educational value.

Specifically these areas in Bertie County are the bottom swamp and woodlands of the Roanoke River and Roquist Pocosin.

POLICY OBJECTIVE

To preserve the natural condition of the site so as to safeguard its existence as an example of naturally occurring, relatively undisturbed plant and animal communities of major scientific or educational value.

APPROPRIATE LAND USES

Appropriate land uses shall be those consistent with the above policy objective. These largely will consist of forestry practiced in a manner consistent with good forest and wildlife management practices.

ESTUARINE AND RIVER ERODIBLE AREAS

DESCRIPTION

Estuarine and river erodible areas are defined as the area above ordinary high water where excessive erosion has a high probability of occurring. In delineating the landward extent of this area, a 75 foot recession line shall be used.

The erodible areas in Bertie County are located along the Chowan River and Albemarle Sound.

SIGNIFICANCE

The estuarine, sound and river erodible areas are natural hazard areas especially vulnerable to erosion. Development within this type of AEC is subjected to the damaging process of erosion unless special development standards and preventative measures are employed.

POLICY OBJECTIVE

To ensure that development occurring within the 25 year erodibility line is compatible with the dynamic nature of the erodible lands thus minimizing the likelihood of significant loss of property.

APPROPRIATE LAND USE

No development activity shall take place within the area vulnerable to erosion unless measures are taken to prevent the erosion which have proven effective in similar situations and which do not threaten to accelerate erosion on adjoining property. The 25-year erodibility line shall be used in determining setback from the river or sound in all ordinances and regulations, such as subdivision regulations and health regulations.

VII. PLAN DESCRIPTION

The areas expected to increase in population in the future are: Aulander, Lewiston-Woodville, Colerain and Windsor, the Merry Hill Community and Askewville. The remaining areas of the County should lose population to the above areas and areas out of the County.

Efforts should be made to upgrade the community facilities in existing communities to enable them to facilitate development.

Map 6 classifies all of the land in Bertie County into five classes contained in the North Carolina Land Classification System. The five classes provide a framework to be used by local governments to identify the general use of all lands in each county.

As a statement of local policy consistent with statewide needs and goals, the county land classification map will serve as a basic tool for coordinating numerous policies, standards, regulations and other governmental activities at the local, state and federal level.

The system also provides a guide for public investment in land. For example, State and local governments can anticipate the need for early acquisition of lands and easements in the Transition class for schools, recreation, transportation and other public facilities.

The system can also provide a useful framework for budgeting and planning for the construction of community facilities such as water and sewer systems, schools and roads. The resources of many state and Federal agencies, as well as those of the local government which are used for such facilities, can then be more efficiently allocated.

In addition, such a system will aid in better coordination of regulatory policies and decisions. Conservation and Rural Production lands will help to focus the attention of state and local agencies and interests concerned with the valuable natural resources of the state. On the other hand, lands in the

Transition and Community classes will be of special concern to those agencies and interests who work for high quality development through local land use controls such as zoning and subdivision regulations.

Finally, the System can help to provide guidance for a more equitable distribution of the land tax burden. Private lands which are in the Rural and Conservation classes should have low taxes to reflect the policy that few, if any, public services will be provided to these lands. In contrast, lands in the Transition class should be taxed to pay for the large cost of new public services which will be required to support the density of growth anticipated.

THE FIVE CLASSES

DEVELOPED

Purpose: The Developed class identifies developed lands which are presently provided with essential public services. Consequently, it is distinguished from areas where significant growth and/or new service requirements will occur. Continued development and redevelopment should be encouraged to provide for the orderly growth in the area.

Description: Developed lands are areas with a minimum gross population density of 2,000 people per square mile. At a minimum, these lands contain existing public services including water and sewer systems, educational systems, and road systems--all of which are able to support the present population and its accompanying land uses including commercial, industrial and institutional.

TRANSITION

Purpose: The Transition class identifies lands where moderate to high density growth is to be encouraged and where any growth that is permitted by local regulation will be provided with the necessary public services.

Description: The area to be designated as Transition must be no greater than that required to accommodate the estimated county population growth at a minimum gross density of 2,000 people per square mile. For example, if the population increase for the following ten year period is projected to be 10,000 people, and it is planned that 8,000 of them will be accommodated in the Transition area, then no more than four square miles of Transition area should be shown. In addition, the minimum services which will be required are the necessary water and sewer facilities, educational services, and roads. Consideration must be given to the cost of public services in the Transition area. Each local government is encouraged to estimate the approximate cost of providing public services where they do not already exist.

Lands to be classified Transition should be considered in the following order:

1) First priority is for lands which presently have a gross population density of more than 2,000 people per square mile, but do not qualify as Developed because they lack the necessary minimum public services. These areas may not be expected to accommodate additional population, but they will require funds for services to avoid public health and safety problems.

2) Second priority is for lands that have all the necessary public services in place, but which lack the minimum gross population density of 2,000 people per square mile needed to qualify the area as Developed. These areas therefore have not utilized the capacity of the existing services.

3) Additional lands necessary to accommodate the remainder of the estimated Transition growth for the ten year planning period.

In choosing lands for the Transition class, such lands should not include:

1) Areas with severe physical limitations for development with public services.

2) Lands which meet the definition of the Conservation class.

3) Lands of special value such as the following unless no other reasonable alternative exists:

a) Productive and unique agricultural lands;
b) Productive forest lands;
c) Potentially valuable mineral deposits;
d) Potential aquifers and key parts of water supply watersheds;
e) Scenic and tourist resources;
f) Habitat for economically valuable wildlife species;
g) Flood fringe lands;
h) Open coast flood hazard areas, exclusive of ocean erosive areas;
i) Estuarine flood hazard areas, exclusive of estuarine erosive areas.

COMMUNITY

Purpose: The Community class identifies existing and new clusters of low density development not requiring major public services.

Description:

1) The Community class includes existing clusters of one or more land uses such as a rural residential subdivision or a church, school, general store, industry, etc. (Cluster is defined as a number of structures grouped together in association or in physical proximity.)
-Webster's Distionary

2) This class will provide for all new rural growth when the lot size is ten acres or less. Such clusters of growth may occur in new areas, or within existing community lands. In choosing lands for Community growth, such lands should not include:

a) Areas with severe physical limitations for development;
b) Areas meeting the definition of the Conservation class;
c) Lands of special value, such as the following, unless no other reasonable alternative exists;

1) Productive and unique agricultural lands;
2) Productive forest lands;
3) Potentially valuable mineral deposits;
4) Potential aquifers and key parts of water supply watersheds;

5) Scenic and tourist resources;
6) Habitat for economically valuable wildlife species;
7) Flood fringe lands;
8) Open coast flood hazard areas;
9) Estuarine flood hazard areas, exclusive of estuarine erosive areas.

3) New development in the Community class areas will be subject to subdivision regulations under the Enabling Subdivision Act (G.S. 153A-330 et. seq.)

4) In every case, the lot size must be large enough to safely accommodate on-site sewage disposal and where necessary water supply so that no public sewer services will be required or needed in the future.

5) Limited public services should be provided in the Community class such as public road access and electric power.

6) As a guide for calculating the amount of land necessary to accommodate new rural community growth, a gross population density of 640 people per square mile or one person per acre should be used. For example, if 1,000 new people are expected to settle in low density clusters during the following ten year period, then roughly 1,000 acres of land should be allocated for new growth in Community class areas.

RURAL

Purpose: The Rural class identifies lands for long-term management for productive resource utilization, and where limited public services will be provided. Development in such areas should be compatible with resource production.

Description: The Rural class includes all lands not in the Developed, Transition, Community and Conservation classes.

CONSERVATION

Purpose: The Conservation class identifies land which should be maintained essentially in its natural state and where very limited or no public services are provided.

Description: Lands to be placed in the Conservation class are the least desirable for development because:

1) They are too fragile to withstand development without losing their natural value and/or;
2) They have severe or hazardous limitations to development and/or;
3) Though they are not highly fragile or hazardous, the natural resources they represent are too valuable to endanger by development.

Such lands at a minimum should include:

1) Fragile

a) Wetlands
b) Steep slopes and prominent high points
c) Frontal dunes
d) Beaches
e) Surface waters including
- Lakes and ponds
- Rivers and streams
- Tidal waters below mean high water
f) Prime wildlife habitat
g) Unique natural areas and historic and archaeological sites

2) Hazard

a) Floodways
b) Ocean erosive areas
c) Inlet lands
d) Estuarine erosive areas

3) Other

a) Publicly owned forest, park, and fish and game lands and other non-intensive outdoor recreation lands
b) Privately owned sanctuaries, etc. which are dedicated to preservation
c) Publicly owned water supply watershed areas
d) Undeveloped key parts of existing water supply watershed
e) Potential water impoundment sites

In addition to the above named types of land, a county may include other areas to be maintained in an essentially natural state which are needed to implement their stated policy objectives.

VIII, SUMMARY

A. MANNER OF DATA ASSEMBLY AND ANALYSIS

Due to time and monitary limitations, very little primary data was generated for this study. Data used in this plan was obtained from six different sources. These sources are:

1) Standard references such as U.S. Census, N.C. Statistical Abstract, N. C. Agricultural Statistics, Profile: N. C. Counties, etc.;

2) A county-wide survey conducted by the Planning Board;

3) Small group discussions held county-wide;

4) Interviews;

5) Previous studies; and

6) Field studies.

Analysis of this data was conducted by staff and presented to the Planning Board for their consideration.

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B. APPLICATION OF DATA TO PLAN FORMULATION

Once data was assembled and analyzed, then it was presented to the Planning Board. The Planning Board utilized the data by using it as (1) a catalyst to discussion of issues, (2) parameter to discussion, and (3) documentation that problems and issues exist.

IX. TOWN-COUNTY PLAN RELATIONSHIP

While the county and towns in Bertie County are separate governmental entities, their future is closely entertwined. Most of the developmental problems discussed in this report are not limited to political boundaries. The benefits that accrue from implementation of this plan will cross political boundaries.

The Coastal Area Management Act places the primary planning responsibility with the county. Towns are permitted to do their own planning if they are of a certain size. Only Windsor, of all the towns in Bertie County, was eligible to do its own planning. The County prepared "mini-plans" for the remaining towns in the County.

The Windsor and Bertie County Plan Relationship can be defined as a coordinated effort through effective land use planning to provide a balanced growth that offers the best affordable working and living environment for all Bertie residents. This relationship has been part of a continuous process which has taken two forms:

(1) Complementing goals and objectives, and

(2) A compatible county-town land classification system.

The Bertie County Plan utilizes the towns as growth centers. Development will be encouraged to locate in or near existing towns in order to utilize existing services and minimize cost of future services. The following town plans give a view of each incorporated town in the county with the exception of Windsor, which has prepared its own plan.

CAMA

LAND DEVELOPMENT PLAN

ASKEWVILLE, N.C.

BERTIE COUNTY

November 23, 1975

Askewville is a small, rural community just east of U.S. Highway 13, located near the center of Bertie County. The town has been known as "the center of the county's tobacco belt." Today, Askewville remains rural-residential in character.

POPULATION

Askewville's population is estimated at 260. The town experienced a 33.3 percent population increase between 1960 and 1975 (Figure 1).

A look at Askewville's population in 1970 shows that 25.1 percent of the population is over 45 years of age (Table 1). Over 40 percent of the population is between 15 and 44 years of age. This is a disproportionate number of younger people as compared to county, state and national averages. The lower proportion of the elderly population and the higher proportion of younger people indicates that Askewville will most likely increase in population due to the higher proportion of the child bearing population.

As of 1970, Askewville had no Black population.

TABLE 1

POPULATION BY AGE AND SEX
ASKEWVILLE 1970

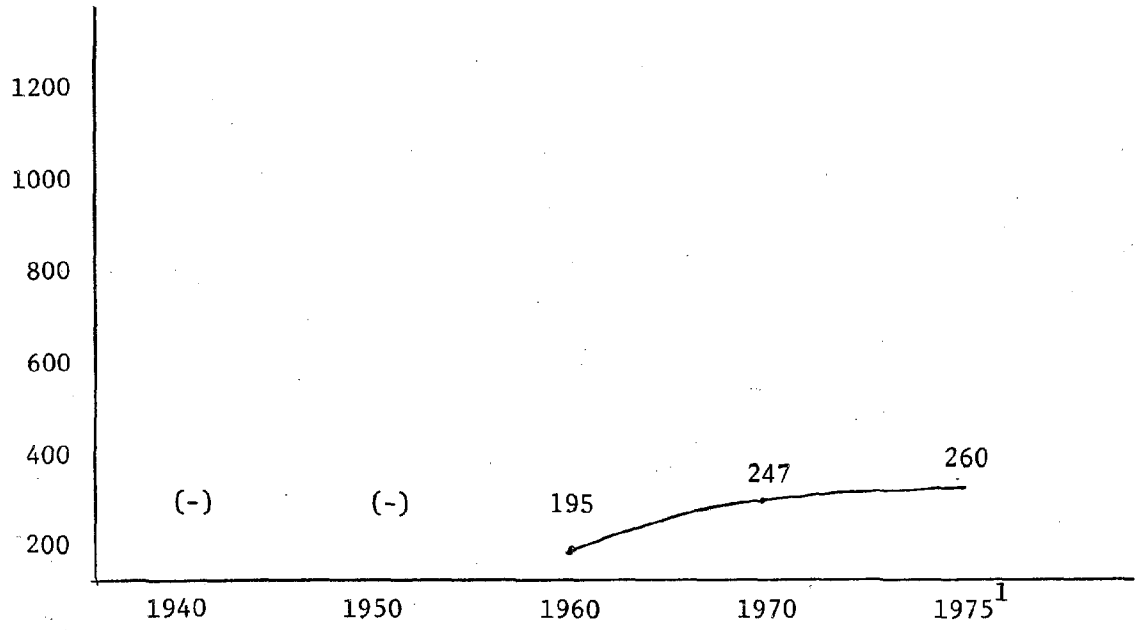
Age	Total	Male	Female	Percent of Total Population
Under 5 years	24	12	12	9.7
5-14	52	20	32	21.1
15-24	33	14	19	13.4
25-34	43	24	19	17.4
35-44	33	17	16	13.4
45-54	16	8	8	6.5
55-64	26	14	12	10.5
65+	20	7	13	8.1
TOTALS	247	116	131	100

SOURCE: U. S. Census of Population, First Count Summary, 1970.

FIGURE 1

POPULATION TRENDS

ASKEWVILLE - 1940-1970



[1] Estimate

SOURCE: U. S. Census of Population, 1940-1970 and N. C. Dept. of Administration.

ECONOMY

Askewville is largely a residential community with residents commuting to work to various industries in Bertie and neighboring Hertford County. As of 1965, the town has no industrial tax base.

The only businesses in town are limited to service related businessess.

EXISTING LAND USE

The major land use in Askewville is rural residential. Limited commercial uses are spotted along U. S. Highway 13. There are no industrial land uses.

Since no district commercial and residential areas exist, the existing low level commercial and residential activities do not pose a problem of conflicting land uses.

CONSTRAINTS ON DEVELOPMENT

Several factors act as constraints on development in any community. These factors are discussed as follows:

Soils

Askewville soils pose severe limitations for development. Generally these limitations are economically feasible to correct. The major limitations are a result of severe flooding. These soils are not generally suited for sanitary facilities or community development due to the severe flooding. From an agricultural standpoint, the limitations are very severe due to not only flooding but high water tables and are not generally developed.

Water Supply

Askewville's water distribution system was recently constructed. The new system is serving approximately 80 connections to date. It has been recommended that the town construct a 150,000 gallon elevated water storage tank to provide adequate fire protection for residents and businesses.

Due to an abundance of ground water, water supply poses no constraints on development.

Capacity of Community Facilities

Lack of community facilities or inadequate community facilities can serve as a constraint on development. For instance, the density of development within Askewville is limited as long as the town is dependent on septic tanks. Other factors such as water systems, fire departments, etc. influence both individuals and businessess in decisions on where to locate.

At the present time Askewville has no wastewater facilities and relies total on on-site disposal methods. This, in effect, imposes a minimum lot size due to the area needed for septic tank and drain field. This places a constraint on development both from a density standpoint and from the standpoint of the town being unable to accommodate any type of development which cannot use septic tanks for wastewater disposal. In addition, soils of the area do not lend themselves to on-site disposal methods.

The town has recently constructed a water system. The system is supplied by two deep wells, each having a capacity of 100 gallons per minute. If the recommended 150,000 gallon elevated water storage tank is constructed, Askewville's water system will provide adequate service. However, if not, the projected increase in water consumption could place additional demands upon the existing water system.

ESTIMATED FUTURE DEMAND

Population

Askewville is projected to increase in population. Table 2 shows population projections for the town, township, and county.

TABLE 2

PROJECTED POPULATION
ASKEWVILLE, WINDSOR TOWNSHIP, BERTIE COUNTY
1970-2000

	1970	1980	1990	2000
Askewville	247	270	289	312
Windsor Township	6,141	6,730	7,190	7,770
Bertie County	20,528	20,880	21,110	21,700

SOURCE: Region Q Water Resources Management Plan; Township projections by Department of Natural & Economic Resources

Economy

There are slight indications that Askewville's economy will change. An increase in the area's population possibility will increase the current level of service. However, these increases are expected to be minor due to projected population percent changes.

Future Land Needs

If Askewville's population projections are realized, the town should concentrate on developing land within the existing service areas of the town. This would allow the town to realize the greatest return on the recently constructed water system. As a result, the cost of providing future services, such as sewer, would be minimized,

Community Facilities Demand

If the community's population projections are realized, the present water system will probably need up-grading. Reliance upon on-site disposal of wastewater will cause problems for development. The location of an industry in Askewville might require a wastewater treatment system.

LAND USE ISSUES

In summary, the land use issues facing Askewville are:

1) Continuing population increase

2) Lack of local economic base

3) A high proportion of the childbearing population

IMPLEMENTATION

If Askewville is to retain the desirable characteristics of the community and address the land use issues outlined above, it must:

1) Form a planning board to advise local officials on development issues, and

2) Make a decision on whether the town will attempt to attract industry.

The town may wish to explore the possibility of continuing land use planning and management services from local, regional, and state agencies.

CAMA

LAND DEVELOPMENT PLAN

AULANDER, N.C.

BERTIE COUNTY

November 23, 1975

THE TOWN OF AULANDER

The Town of Aulander is located in northwest Bertie County. Historically, the town has been a rural trading community, with industry locating in the community recently. At one time Aulander was the "largest city in the world." The incorporating act specified boundaries extending 1,000 miles in each direction. The error was corrected.

Aulander is served by a number of roads. N.C. 305 connects the town with Windsor, 19 miles to the southeast. N.C. 11 connects Aulander to Lewiston, 8 miles to the southwest, and Ahoskie, 7 miles to the northeast. Secondary roads connect Aulander with surrounding rural areas. The town is served by a railroad.

POPULATION

Aulander's population is estimated at 940 for 1974. The town has been experiencing a decline in population since 1950 (Figure 1). This pattern of population loss has occurred at a slower rate than the county's population decline.

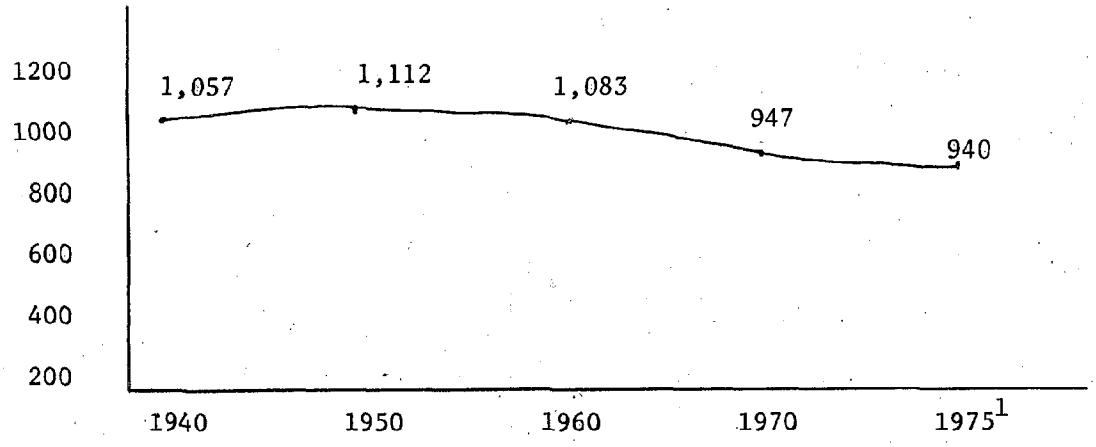
A look at Aulander's population in 1970 (Table 1) shows a high percentage of population in the 55 years old and above categories. This, coupled with a relatively low percentage in 25 - 44 categories, indicates a pattern of outmigration.

Generally, those who migrate out are the young, who having completed their education, look elsewhere for greater opportunity. This appears to have happened in Aulander.

FIGURE 1

POPULATION TRENDS

AULANDER 1940-1975



[1]Estimate

Source: U. S. Census of Population, 1940-1975 and N. C. Dept. of Administration.

TABLE 1

POPULATION BY AGE AND SEX

AULANDER 1970

Age	Total	Male	Female	Percent of Total Population
Under 5 years	56	25	31	5.9
5-14	136	73	63	14.4
15-24	118	57	61	12.5
25-34	112	56	56	11.8
35-44	102	50	52	10.8
45-54	112	53	59	11.8
55-64	154	62	92	16.3
65+	157	63	94	16.6
TOTALS	947	439	508	100

Source: U. S. Census, First Count Summary, 1970.

The age distribution pattern in Aulander also has implications for provisions of services by local government. For instance, Aulander with a relatively high percentage of population in the 5 - 24 age categories, would want to provide active recreation for those young people.

Blacks number 146, or 15.4 percent of the total population of Aulander.

ECONOMY

Aulander is a rural trading community. The location of the Blue Ridge Shoe Corporation with approximately 200 employees, and National Peanut Corporation, with 90 employees, has given the town an industrial base.

In addition to the industries located in Aulander, many residents commute to work in surrounding counties or southeast Virginia.

GOVERNMENT

Aulander has recently adopted Manager-Mayor-Council form of government. The town has a full-time town manager, clerk, and two policemen. A part-time policeman also serves the community.

The town presently exercises no regulations which would impact land development patterns. The town has contracted to have zoning and subdivision regulations and an annexation study prepared during the coming year.

EXISTING LAND USE

Most of the land in Aulander is vacant. Of the developed land, the overwhelming majority is residential. Commercial development is largely confined to a well-defined central business district.

The residential and commercial areas of town are distinct. This is a desirable feature which should be preserved. The industrial land uses are located on the periphery of the residential areas. They create some con-

flicting land uses in regard to the housing immediately adjacent to the industrial uses. A number of local citizens have also expressed concern about mobile homes moving into established neighborhoods.

Conceptually, land use in Aulander can be viewed as concentric rings with the central business district forming the core, residential development forming the next ring out and industrial development and agriculture forming the outermost ring.

This concept breaks down where N. C. 305 from Windsor and N. C. 250 from Ahoskie lead into town. Residential strip development has occurred along these highways outside of the existing city limits. These are the primary areas the town will examine in its annexation study.

CONSTRAINTS ON DEVELOPMENT

Several factors act as constraints on development in Aulander. These may be broken down into the broad categories of land potential--the natural constraints placed on development--and capacity of community facilities. These constraints on development do not mean that development cannot take place in the affected areas, only that the development may not be economically feasible.

Soils

Most of the soils in Aulander have slight limitations for development. The soils are well drained to moderately well drained with only slight limitations for development and for agriculture. They are generally well adopted for septic tanks, sanitary landfills, but may have moderate problems with sewage lagoons. As far as building is concerned, shallow excavations would only have slight limitations. Basements would be possible on high ground in this area and in general would have fair to good bearing strength.

In small areas of the town, largely to the southeast, the soils are not suitable for development and therefore pose a constraint on development.

Water Supply

The Town of Aulander utilized groundwater as its water source. A distribution system serves most of the town's residents. The area south of Aulander, along N. C. 305, is served by the South Aulander Water Association. The area north of Aulander, along N. C. 350 is served by the Millennium Water Association.

Groundwater is plentiful in the Aulander area and presents no constraints on development, in regard to supply. The distribution system would serve as the only constraint. The existence of the South Aulander and Millennium Water Associations will aid the town's efforts to annex these areas.

Capacity of Community Facilities

Lack of community facilities or inadequate community facilities can serve as a constraint on development. For instance, the town-served treatment facilities might not be adequate to handle the additional burden a new industry could place on them. Therefore, that new industry could decide to locate elsewhere.

The constraints of the water supply and distribution system were discussed earlier. It was concluded that water supply would not provide a constraint on development. The distribution system possibly could provide a constraint.

The town has a wastewater collection and treatment system. The treatment facility, constructed in 1962, has a design capacity of 0.08 million gallons daily. The collection system serves about 650 people. Treated effluent is discharged into Fort Branch, a tributary of Ahoskie Creek.

The North Carolina Division of Environmental Management has requested that the present facility be replaced with a new one which will give a tertiary degree of treatment. Disinfection also needs to be added to the treatment process.

ESTIMATED FUTURE DEMAND

Population

Aulander is projected to lose population to a level of 834 in 1990. After 1990 the town is projected to gain population to a level of 961 in the year 2000. Annexation or location of new industry could influence the future population trends.

The population projection presented below (Table 2) was computed by the N. C. Department of Natural and Economic Resources. A projection is only a guess based on past performance.

TABLE 2

PROJECTED POPULATION
AULANDER AND BERTIE COUNTY, 1970 - 2000

Area	1970	1980	1990	2000
Aulander	947	923	834	961
Bertie County	20,528	20,880	21,110	21,700

Source: Computed by N.C. DNER based on OBERS county and township projections.

Economy

Aulander's proximity to Ahoskie, coupled with an existing water and sewer system, indicates that the town's economy could prosper in the future.

Future Land Needs

Aulander has adequate land within its present boundaries to service any anticipated future land needs. The town could explore the possibility of annexing the developed areas south of town along N. C. 305 and north of town along N. C. 350.

Community Facilities Demand

The present water system is adequate for anticipated future needs. The system could be joined with that of the South Aulander Water Association and the Millennium Water Associates, thereby strengthening all systems.

The present wastewater treatment facilities need to be upgraded.

LAND USE ISSUES

In summary, the land use issues facing Aulander are:

1) The need to upgrade the sewer treatment facility;

2) A need to preserve the central business district;

3) Mobile homes appearing in established neighborhoods;

4) The issue of annexing adjoining communities; and

5) Join the various water systems into a single system.

CAMA
LAND DEVELOPMENT PLAN

COLERAIN, N.C.
BERTIE COUNTY

NOVEMBER 23, 1975

The Town of Colerain is located approximately one mile from the Chowan River on North Carolina Highways 45 and 350 in Bertie County. Colerain was incorporated in 1873.

Two noteworthy events can be cited from Colerain's early history. First, in 1743, the herring fishing industry was established in Colerain by John Campbell and Richard Browning. Also, at Colerain is the Hardy Home, one residence of the Hardy family who came to Bertie County about 1690.

Today Colerain is a quiet farming and fishing community. North Carolina Highways 45 and 350 provide connections with U. S. Highways 13 and 17. These transportation routes provide good accessibility to surrounding rural areas.

POPULATION

Colerain's population was estimated at 380 in 1975. The town has experienced a slight increase in population since 1960 (Figure 1). This slight increase (from 373 in 1960 to 380 in 1975) is significant when compared with age group populations (Table 1).

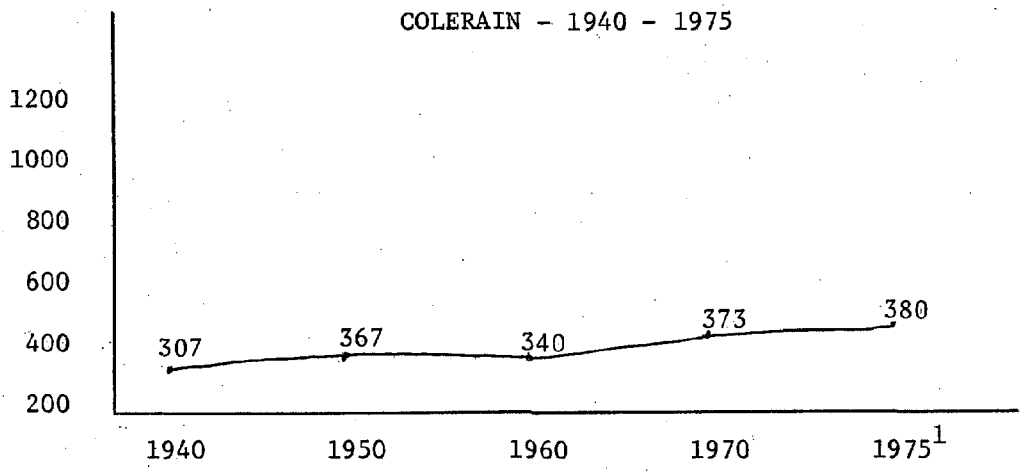
In 1970 over 40 percent of Colerain's population was over 45 years of age. This is a disporportinate number of older people as compared to county, state and national averages. The higher proportion of older people indicates that Colerain will not be as likely to increase in population due to deaths exceeding births. Any population increases or even maintaining existing population levels, will require people moving into Colerain.

Other characteristics for the 1970 Colerain population include: 14 percent Black and an average household size of 3.6 people.

FIGURE 1

POPULATION TRENDS

COLERAIN - 1940 - 1975



[1]Estimate

Source: U. S. Census of Population, 1940-1970 and N. C. Dept. of Administration.

TABLE 1

POPULATION BY AGE AND SEX

COLERAIN - 1970

Age	Total	Male	Female	Percent of Total Population
Under 5 years	35	19	16	9.4
5-14	51	26	25	13.7
15-24	54	29	25	14.5
25-34	37	18	19	9.9
35-44	36	17	19	9.7
45-54	61	27	34	16.4
55-64	50	18	32	13.4
65+	49	16	33	13.1
TOTALS	373	170	203	100

Source: U. S. Census, First Count Summary, 1970.

ECONOMY

Colerain is largely a residential, farming and fishing community. There is one industry in Colerain, a fish processing company. It employs approximately 200 (seasonal) workers.

Other businesses in town are service related, such as service stations, general stores, grocery stores, etc. Colerain has a Local Development Corporation that is presently working toward economic development of the area. It is hoped that increased economic opportunity will result from its efforts.

GOVERNMENT

Colerain is governed by a Mayor-Commissioner form of government. The town has one full-time employee.

Police protection is provided by one town policeman and fire protection is provided by 25 volunteer firemen. The Fire Department has an insurance rating of 9AA.

The sources of income to support Colerain's governmental services include the following: (1) Ad Valorem Taxes 30%; (2) Utilities 24%; (3) ABC 3%; (4) Privilege License 1%; and (5) other 42%.

EXISTING LAND USE

Most of the land in Colerain is vacant or in agricultural production. Of the developed land, the overwhelming majority is residential. Commercial development has occurred in proximity to N. C. 45 and 350 intersections. Industrial activities are located in and around the eastern portion of town along the Chowan River. In all, no distinct land use conflicts exist.

CONSTRAINTS ON DEVELOPMENT

Land potential - the natural constraints placed on development - and the capacity of community facilities are broad development factors. Colerain's potential development is examined in view of these broad factors.

Soils

Colerain soils have been identified as having severe limitations for development - severe limitations that are not generally economically feasible to correct. The major limitation is severe flooding. These soils are not generally suited for sanitary facilities or community development due to the severe flooding. However, small areas of higher ground that could be included in the area might be suited.

From an agricultural standpoint the limitations are very severe due to not only flooding, but high water tables, and are not generally developed. However, certain small areas of higher ground may be used for these purposes.

Water Supply

Colerain has a municipal water system which serves the residents of the community. Ground water is abundant throughout the area, and availability of water provides no constraints upon development.

Historic Areas

Although not officially declared a historic site, the Hardy Home is of historic significance to the Colerain community. The Hardy Home was once the residence of one of the first families in Bertie County.

Colerain's fishery is surely noteworthy. Built by John Campbell in 1743, it remains the town's sole industry.

The Town of Colerain should take action to insure that future development occurring in proximity to these sites is not detrimental to these local landmarks.

CAPACITY OF COMMUNITY FACILITIES

The capacity of community facilities is important to the future development of the Colerain community. The most important developmental factors are the adequacy of water systems, sewer systems, etc. These factors influence both individual and business decisions regarding location.

The water system has a maximum daily capacity of 35,000 gallons per day (GPD) with a peak load to date of 17,500 GPD. Thus, the water system appears adequate for anticipated development. On the other hand, wastewater treatment is currently inadequate. Effluent is discharged into the Chowan River. This places a constraint on development, both from an environmental and economical (attracting industries) standpoint.

ESTIMATED FUTURE DEMAND

Population

Colerain's population is projected to increase slightly over the next years. As Table 2 shows, by the year 2000 the town will have increased by only 37 in number.

The population projection presented below was computed by the N.C. Department of Natural and Economic Resources. Several population factors were not included in this projection. Moreover, due to Colerain's size (less than 2,500) much information needed for realistic projections does not exist. Nevertheless, the following does indicate the most probable trend.

TABEL 2 PROJECTED POPULATION

COLERAIN TOWNSHIP, COLERAIN, AND BERTIE COUNTY

1970 - 2020

	1970	1980	1990	2000
Colerain	373	383	388	400
Colerain Township	4,069	4,170	4,230	4,360
Bertie County	20,528	20,880	21,110	21,700

SOURCE: Region Q Water Resources Management Plan; Township projections by N. C. Department of Natural and Economic Resources.

Economy

Colerain's service related economy does not appear to be changing. A relative slow growth rate will probably sustain the current level of service.

Colerain has one basic industry and has identified two sites for industrial development. Potential for industrial development does exist in Colerain due to its proximity to the Chowan River, a natural transportation route. Although outside the town's limits, other areas along the river have potential for residential development.

Future Land Needs

Being that Colerain does not expect rapid growth, the town should concentrate on developing lands within the existing service areas of the town. This would provide greater and more efficient use of governmental services. If growth accelerates, then orderly growth by extension of the town's service area can be provided.

Community Facilities Demand

If current projections are realized, the present water system will provide adequate service. Today the most pressing demand facing the Colerain community is that of an adequate wastewater disposal system.

The town should remain cognizant of this fact and explore means of providing adequate wastewater disposal.

LAND USE ISSUES

In summary, the land use issues facing Colerain are:

1) Slow population increase;
2) Lack of local economic base;
3) A high (and increasing) proportion of elderly population;
4) A need to provide an adequate wastewater system;
5) A need to protect the historic aspects of Colerain.

IMPLEMENTATION

If Colerain is to retain the desirable characteristics of the community and address the land use issues outlined above, it must:

1) Form a planning board to advise local officials on development issues;
2) Make a decision on whether the town will attempt to attract industry, or face a continuing slow population increase; and
3) Develop land use regulations to protect the historic aspects and the aesthetic qualities of the town.

Due to its small size it is questionable whether Colerain would be able to properly administer a set of land use regulations as proposed. The town should explore the possibility of the county administering these regulations for the town.

CAMA
LAND DEVELOPMENT PLAN

KELFORD, N.C.
BERTIE COUNTY

November 23, 1976

Kelford is located in northwest Bertie County, approximately two miles south of Roxobel and three miles from the Roanoke River. The town was laid out in 1890 by Colonel S. A. Norfleet and incorporated in 1892. Kelford once had a bank and considerable commerce. Today, Kelford is a small agricultural-residential community.

POPULATION

Kelford's population to date is estimated at 290. The town has been experiencing a decline in population since 1940 (Figure 1). Since 1940 to present, Kelford has experienced a 36.4 percent population change. This pattern of population loss is more rapid than the township's population decline. As of 1970 over 50 percent of the population belonged to the 45 and over age groups (Table 1). This is a disproportionate number of older people as compared to county, state and national averages. This higher proportion of older people indicates that Kelford will not be as likely to increase in population due to deaths exceeding births. Any population increases, or even maintaining existing population levels, will require people moving into Kelford. The above is characteristic of several towns within Bertie County.

As of 1970, other Kelford population characteristics included a 56.2 percent Black population and a 4.0 average household size.

TABLE 1

POPULATION BY AGE AND SEX

Kelford 1970

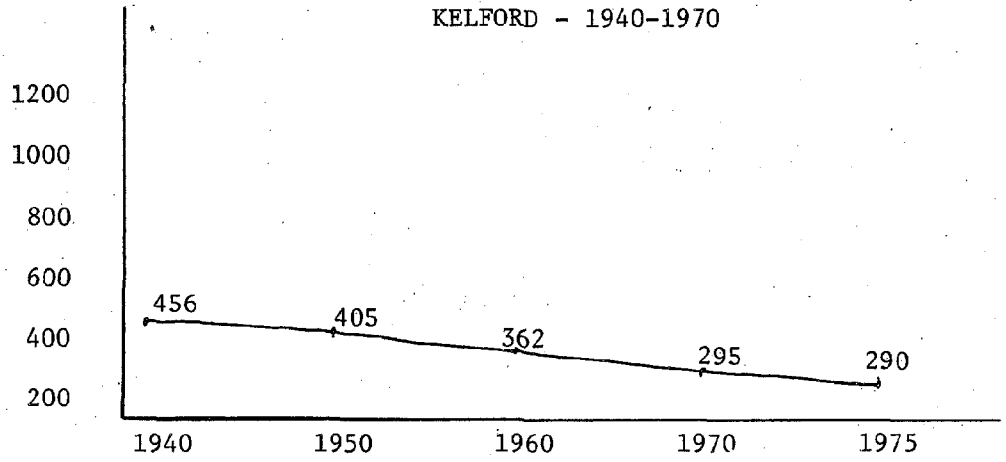
Age	Total	Male	Female	Percent of Total Population
Under 5 yrs.	14	5	9	4.7
5-14	56	33	23	19.0
15-24	36	11	25	12.2
25-34	20	11	9	6.8
35-44	20	9	11	6.8
45-54	35	14	21	11.9
55-64	58	24	34	19.7
65+	56	23	33	19.0
TOTALS	295	130	165	100

SOURCE: U. S. Census of Population, First Count Summary, 1970.

FIGURE 1

POPULATION TRENDS

KELFORD - 1940-1970



[1]Estimate

SOURCE: U. S. Census of Population, 1940-1970 and N. C. Department of Administration

ECONOMY

Kelford is a residential farming community. There is one industrial operation in Kelford. Existing businesses are service related, such as gasoline service stations, several general stores, etc.

Kelford does not have a local development corporation to work toward economic development. In summary, Kelford lacks an extensive economic base.

EXISTING LAND USE

Kelford's land use is primarily residential and vacant. There are limited commercial activities spotted along N. C. 308. Due to the low level of commercial activity, problems of conflicting land uses are limited.

CONSTRAINTS

Soils

Kelford has good soils for development. The soils are moderately well drained with a friable subsoil. These type soils are suitable for septic tanks. As such, they provide few constraints on development.

Water Supply

Kelford obtained its municipal water system in 1965. With present and projected population trends indicating population losses over the next years, water supply does not appear to pose constraints. However, if population trends should reverse and/or additional industry is introduced into the area, the present water supply would pose constraints on development.

Capacity of Community Facilities

At present, Kelford's water system consists of one 75,000 gallon elevated storage tank and one well which produces an average yield of 200 gpm. The town has an additional well, but no pump.

Residents depend on septic tanks and absorption fields for the disposal of wastewater. Studies show that the soils are favorable, in that there are only moderate limitations to the use of on-site disposal units. However, this in effect imposes a minimum lot size due to the area needed for septic tank and drain field. This places a constraint on development both from a density standpoint and from the standpoint of the town being unable to accommodate any type of development which cannot use septic tanks for wastewater disposal.

ESTIMATED FUTURE DEMAND

Population

Kelford is projected to continue losing population. The town's past unsuccessful efforts to attract new residents, a lack of any basic job opportunities and a high percentage of people past the child bearing age tend to bear this out.

Table 2 shows population projections for Kelford, Roxobel Township, and Bertie County.

TABLE 2

PROJECTED POPULATION
KELFORD, ROXOBEL TOWNSHIP AND BERTIE COUNTY
1970-2000

	1970	1980	1990	2000
Kelford	295	302	295	292
Roxobel Township	1,871	1,830	1,790	1,770
Bertie County	20,528	20,880	21,110	21,700

SOURCE: Town and Township Projections by N. C. Department of Natural and Economic Resources

Economy

There are no indications that Kelford's service related economy will change. A decline in the area's population possibly will curtail the current level of service.

Kelford has no developed industrial sites. The probability of attracting industry is small.

Future Land Needs

If Kelford should be able to reverse its population loss, it should concentrate on developing land within the existing service areas of the town. This would allow the town to realize the greatest return on the investment already made in the water system and would minimize the cost of providing future services, such as sewer.

This policy of containing growth within the existing town boundaries and upgrading existing services within those areas has resulted in the town being classified Transitional in the county land use plan.

Community Facilities Demand

If the community maintains its present population or declines in population, the present water system and reliance upon on-site disposal of wastewater is adequate. A gain in population or location of an industry in Kelford might require a wastewater treatment system.

LAND USE ISSUES

In summary, the land use issues facing Kelford are:

1) Continuing population loss;

2) Lack of local economic base;

3) A high proportion of elderly population.

IMPLEMENTATION

If Kelford is to retain the desirable characteristics of the community and address the land use issues outlined above, it must:

1) Form a planning board to advise local officials on development issues; and

2) Make a decision on whether the town will attempt to attract industry, increase the tourist trade, or face a continuing loss of population.

Due to its small size, it is questionable whether Kelford would be able to properly administer planning activities. To this extent, the town should explore the possibility of retaining local planning and management services from area local, state, and federal agencies.

CAMA

LAND DEVELOPMENT PLAN

LEWISTON-WOODVILLE, N.C.

BERTIE COUNTY

NOVEMBER 23, 1975

Lewiston and Woodville are Bertie County's twin towns although they were separately incorporated. The twin towns are located in the northwest corner of Bertie County on U. S. Highway 11.

POPULATION

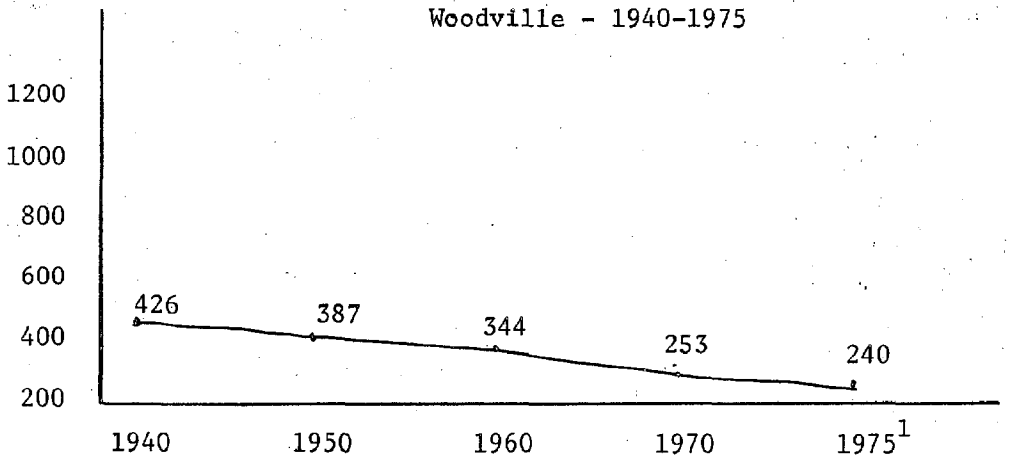
Lewiston's and Woodville's population is estimated at 430 and 240 respectively (Figures 1 and 2). Since 1940 to date Lewiston has increased 126 in number while Woodville has declined 186 in number.

The age characteristics of the twin towns show some similarities (Tables 1 and 2). The 45 and over age group comprise the largest population percentage - Lewiston, 44.6 percent and Woodville 39.0 percent. Approximately 32 percent of the population in both towns belong to the 15-44 age groups. The higher proportion of older people indicates that Woodville and Lewiston will not be as likely to increase in population due to deaths exceeding births. However, an increase in births by the 15-44 age group could stabilize the populations.

FIGURE 1

POPULATION TRENDS

Woodville - 1940-1975



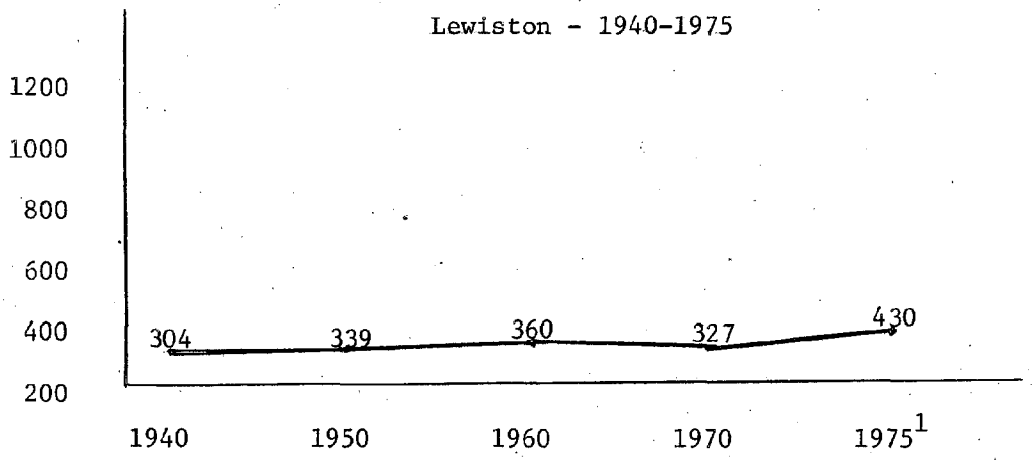
[1]Estimate

SOURCE: U. S. census of Population, 1940-1970 & N. C. Dept. of Administration.

FIGURE 2

POPULATION TRENDS

Lewiston - 1940-1975



[1]Estimate

SOURCE: U. S. Census of Population, 1940-1970 & N. C. Dept. of Administration

TABLE 1

POPULATION BY AGE AND SEX

LEWISTON-1970

Age	Total	Male	Female	Percent of Total Population
Under 5 yrs.	16	10	6	4.9
5-14	59	29	30	13.0
15-24	51	33	18	13.6
25-34	23	11	12	7.0
35-44	32	11	21	6.8
45-54	58	28	30	17.7
55-64	48	22	26	14.7
65+	40	13	27	12.2
TOTALS	327	157	170	100

SOURCE: U. S. Census of Population, First Count Summary, 1970.

TABLE 2

POPULATION BY AGE AND SEX

WOODVILLE - 1970

Age	Total	Male	Female	Percent of Total Population
Under 5 yrs.	24	11	13	9.4
5-14	50	22	28	19.7
15-24	36	17	19	14.2
25-34	20	8	12	7.9
35-44	24	10	14	9.4
45-54	34	19	15	13.4
55-64	38	16	22	15.0
TOTALS	253	118	135	100

SOURCE: U. S. Census of Population, First Count Summary, 1970.

ECONOMY

Lewiston is one of the most industrialized towns in Bertie County. Harrington Manufacturing, the county's largest employer, is located here. Lewiston has two other industries who, along with Harrington Manufacturer, employ approximately 607 people (peak).

In addition, service-related activities add to the town's economy. These activities consist of service stations, banks, grocery stores, etc.

While Lewiston has industries, Woodville does not. Woodville is largely a residential community with an economy consisting mainly of service-related activities. Overall, the twin towns can be termed economically stable.

GOVERNMENT

Lewiston and Woodville are governed by separate Mayor-Commissioner forms of government.

EXISTING LAND USE

Lewiston has a mixture of land uses. Commercial and industrial uses are located along U. S. Highway 11, while agriculture and residential uses dominate the town.

On the other hand, residential, agricultural and limited commercial activities dominate land use in Woodville. The commercial and residential land uses are less distinct in Woodville. Yet, the low level of commercial activity poses no conflicting land uses.

CONSTRAINTS ON DEVELOPMENT

Soils

The soils of the Lewiston-Woodville area pose limitations for development. The major limitation is severe flooding. However, there are small areas of higher ground that may be used for development.

Water Supply

The twin towns jointly operate a municipal water system. The system consists of two wells and an elevated storage tank. In addition, the water system provides fire protection to both towns.

Historic Areas

Two early 19th century homes are located in Woodville. They are the Pugh-Walton Mizelle House and the Yellow House. These homes are presently being used as residential dwellings.

Capacity of Community Facilities

The water system's two wells yield a combined total of 300 gallons per minute. A 100,000 gallon elevated storage tank is also part of the water system. The distribution system includes fire hydrants.

Lewiston-Woodville wastewater collection and treatment system consists of a 0.070 million gallon per day secondary wastewater treatment plant. To date, the treatment facility is operating at approximately 60 percent capacity.

The water and wastewater treatment systems appear adequate to meet the twin towns' anticipated demands.

ESTIMATED FUTURE DEMAND

Lewiston and Woodville are projected to continue losing population. Table 3 shows population projections for both home towns, the township, and county.

Due to the location of a Purdue chicken processing plant nearby, the projected decline in population is probably inaccurate. The towns should maintain their current population and possibly increase population to a small extent.

TABLE 3

POPULATION PROJECTIONS

LEWISTON, WOODVILLE, WOODVILLE TOWNSHIPS, & BERTIE COUNTY

1970 - 2000

	1970	1980	1990	2000
Lewiston	327	308	289	274
Woodville	253	250	235	223
Woodville Township	1,528	1,440	1,350	1,280
Bertie County	20,528	20,880	21,110	21,700

SOURCE: N. C. Department of Natural and Economic Resources

Economy

There are indications that the economy of the Woodville-Lewiston area will change. The location of the Purdue plant near the towns will have a definite impact on the local economy.

The area has basic industries and undeveloped industrial sites. The probability of attracting further industry exists. However, this will involve progressive local economic development capability.

Future Land Needs

If Lewiston and Woodville should be able to reverse their population loss, they should concentrate on developing land within the existing service areas of the towns. This would allow the towns to realize the greatest returns on the investments already made in the water and sewer systems and would minimize the cost of providing future services, such as sewer.

Community Facilities Demand

If the community maintains its present population or declines in population, the present water and sewer systems are adequate. A gain in population or location of additional industry in the area will require improvements in the existing wastewater treatment system. These improvements would depend on the amount of growth.

LAND USE ISSUES

In summary, the land use issues facing Woodville-Lewiston are:

1) Continuing population loss;
2) Lack of local economic base;
3) A high proportion of elderly population; and
4) A need to protect the historic aspects of Woodville.

IMPLEMENTATION

If Lewiston and Woodville are to retain the desirable characteristics of the communities and address the land use issues outlined above, they must:

1) Form a planning board to advise local officials on development issues;

2) Make a decision on whether the towns will attempt to attract industry, or face a continuing loss of population; and

3) Develop land use regulations to protect the historic aspects of the area.

Due to their small size, it is questionable whether Lewiston and Woodville would be able to properly administer a set of land use regulations as proposed. The towns should explore the possibility of the county administering these regulations for the towns. In addition, the towns may wish to explore the possibility of retaining local planning and management services from state or regional agencies.

CAMA
LAND DEVELOPMENT PLAN

POWELLSVILLE, N.C.

BERTIE COUNTY

November 23, 1976

"No Historical Data Available on Powellsville"

Powellsville is located in Bertie County on U. S. 13 and N. C. 350. The town is rural-residential in character.

POPULATION

Today, Powellsville has an estimated population of 250. There have been no significant population trends in Powellsville. Since 1940 the town has experienced minimal population decreases and increases (Figure 1).

A look at the town's population by age group shows that 20 percent of the population is under 14; 40 percent belongs to the 15-44 age group; and 39 percent are 45 or above (Table 1). These population percentages suggest that Powellsville will continue to lose population. Any population increases as a result of the 40 percent child bearing age population will probably be offset by deaths of the 39 percent above 45.

Powellsville's racial mix is 34.4 percent Black and 65.5 percent White.

TABLE 1

POPULATION BY AGE AND SEX

POWELLSVILLE, 1970

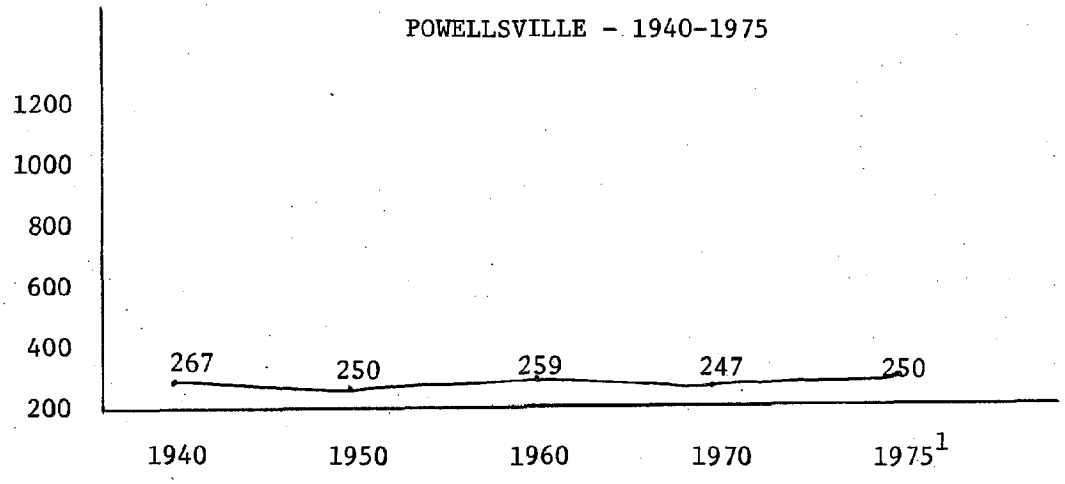
Age	Total	Male	Female	Percent of Total Population
Under 5 yrs.	15	8	7	6.1
5-14	36	24	12	14.6
15-24	41	18	23	16.6
25-34	29	12	17	11.7
35-44	30	15	15	12.1
45-54	31	14	17	12.6
55-64	32	12	20	13.0
65+	33	11	22	13.4
Totals	247	114	133	100

Source: U. S. Census of Population, First Count Summary, 1970.

FIGURE 1

POPULATION TRENDS

POWELLSVILLE - 1940-1975



[1]Estimate

SOURCE: U. S. Census of Population, 1940-1970 & N. C. Dept. of Administration.

ECONOMY

Powellsville is largely a residential community with residents commuting to work. There are no industries in Powellsville.

There are limited commercial activities along N. C. 350. These activities are services related.

One industrial site located at the town limits, east of intersection U. S. 13, State Highway 350, and State Road 1235 has been identified.

GOVERNMENT

Powellsville is governed by a Mayor-Commissioner form of government. The town has no full-time employees.

EXISTING LAND USE

Most of the land in Powellsville is vacant, residential or in agricultural uses. Commercial development is spotted along Main Street and N. C. Highway 350.

There are no distinct commercial and residential areas in Powellsville. The existing commercial activities are low level and do not pose a problem of conflicting land uses.

CONSTRAINTS ON DEVELOPMENT

Soils

Powellsville has soils limitation which are generally economically feasible to correct. From an agricultural standpoint, the limitations are very severe due to not only flooding, but high water tables, and are not generally developed. However, certain small areas of higher ground may be used for these purposes.

Water Supply

The existing water system is insufficient. There is not enough storage capacity; fire protection is not provided; distribution lines are too small; and there is not enough surplus capacity existing to attract any potential industry. (For detailed analysis see Region Q Water Resource Management, 1975).

Capacity of Community Facilities

Lack of community facilities or inadequate community facilities can serve as a constraint on development. For instance, the density of development within Powellsville is limited as long as the town is dependent on septic tanks. Other factors such as water systems, fire departments, etc. influence both individuals and businesses in decisions on where to locate.

At the present time Powellsville has no wastewater facilities and relies totally on on-site disposal methods. This in effect imposes a minimum lot size due to the area needed for septic tank and drain field. This places a constraint on development from a density standpoint and from the

standpoint of the town being unable to accommodate any type of development which cannot use septic tanks for wastewater disposal.

The present water system is inadequate and poses constraints on development. The water system is composed of two ground wells, which have a combined yield of 115 gpm. The water is chlorinated and then stored in two pneumatic tanks having a 1,000 gallon capacity each. This water system does not lend itself to potential industrial development.

ESTIMATED FUTURE DEMAND

Population

Powellsville is projected to decline in population to year 1980 after which the town will experience a slow growth period (Table 2).

TABLE 2

PROJECTED POPULATION
POWELLSVILLE, BERTIE COUNTY
1970-2000

	1970	1980	1990	2000
Powellsville	247	226	229	237
Bertie County	20,528	20,880	21,110	21,700

SOURCE: N. C. Department of Natural & Economic Resources.

Economy

There are no indications that Powellsville's service related economy will change. A decline in the area's population possibly will curtail the current level of service.

Powellsville has no basic industries and no developed industrial sites. Even though one industrial site has been identified, the probability of attracting an industry is minimal.

Future Land Needs

If Powellsville should be able to reverse its population loss, it should comcentrate on developing land within the existing service areas of the town. This would allow the town to realize the greatest return on the investment already made in the water system and would provide the most cost effective means of administering governmental services.

This policy of containing growth within the existing town boundaries and upgrading existing services within those areas has resulted in the town being classified Transitional in the county land use plan.

Community Facilities Demand

If the community maintains its present population or declines in population, the present water system and reliance upon on-site disposal of wastewater is adequate. A gain in population or location of an industry in Powellsville will require a wastewater treatment system and a new water system.

LAND USE ISSUES

In summary, the land use issues facing Powellsville are:

1) Continuing population loss; and

2) Lack of local economic base.

IMPLEMENTATION

If Powellsville is to retain the desirable characteristics of the community and address the land use issues outlined above, it must:

1) Form a planning board to advise local officials on development issues; and

2) Make a decision on whether the town will attempt to attract industry, or face a continuing loss of population.

Powellsville may wish to explore the possibility of receiving local planning and management services from county, state, or regional agencies.

CAMA
LAND DEVELOPMENT PLAN

ROXOBEL, N. C.
BERTIE COUNTY

November 23, 1975

Roxobel is located in Bertie County on N. C. Highway 308. Roxobel's history dates back to 1750 and was originally named Cottone's Cross Roads. Since 1750 the town has changed names three times: (1) Granberry's Cross Roads, (2) Britton's Cross Roads, (3) and finally,in 1849,to present Roxobel.

As with other towns in close proximity to rivers, Roxobel's early history and business centered around river transportation. The town is approximately four miles from the Roanoke River. At one time three banks operated in Roxobel and nearby Kelford.

Today, Roxobel is a quiet farming community with limited activities centered around farm products, feed mills and lumbering.

POPULATION

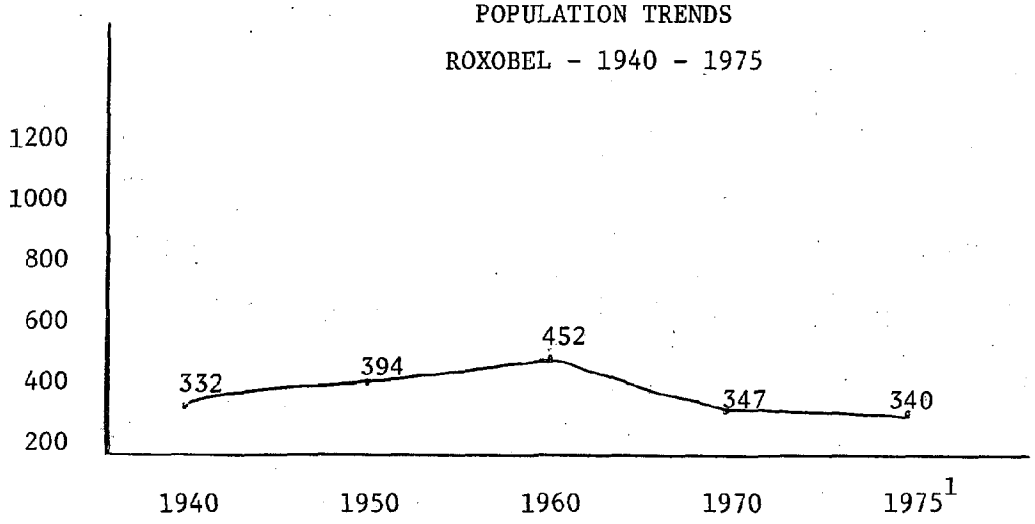
Roxobel's 1974 population was estimated at 340. The town has been declining in population since 1960 (Figure 1). From 1960 to date Roxobel has experienced a negative 25 percent population change.

Similar to other towns throughout eastern North Carolina, Table 1 shows that Roxobel is experiencing rapid growth in the over 45 years of age group (42 percent of the population is over 45 years of age). The higher proportion of older people indicates that Roxobel will not be as likely to increase in population due to deaths exceeding births and out-migration. Population increases,or even maintaining existing population levels, will require attracting more people to live in Roxobel.

FIGURE 1

POPULATION TRENDS

ROXOBEL - 1940 - 1975



[1]Estimate

SOURCE: U. S. Census of Population, 1940-1970 and N. C. Department of Administration

TABLE 1

POPULATION BY AGE AND SEX

ROXOBEL - 1970

Age	Total	Male	Female	Percent of Total Population
Under 5 yrs.	22	10	12	6.3
5-14	62	30	32	17.9
15-24	66	27	39	19.0
25-34	20	9	11	5.8
35-44	32	14	18	9.2
45-54	58	23	35	16.7
55-64	44	19	25	12.7
65+	43	14	29	12.4
TOTALS	347	146	201	100

SOURCE: U. S. Census of Population, First Count Summary, 1970.

Soils

The Roxobel area soil is made up of well-drained to moderately well-drained soils with slight limitations for development and for agriculture. They are well adapted for septic tanks but may have moderate problems with sewage lagoons. As such, they provide limited constraints on development.

Flood Hazard

Roxobel has an elevation of 88 feet and is not subject to frequent flooding.

Water Supply

Roxobel has a municipal water system consisting of two deep wells. The system was installed in 1964 and appears adequate for future needs since present and projected population trends indicate Roxobel will experience a loss of population in the next years.

Historic Areas

Roxobel has two historic dwellings presently in use. These dwellings are (1) Norfleet House and (2) Tyler House, built in 1810 and 1825, respectively. Development occurring in proximity to these homes should not be such that would destroy their historical status.

Capacity of Community Facilities

Lack of community facilities or inadequate community facilities can serve as a constraint on development. Water and sewer facilities are two of the most important facilities affecting constraints on development.

At present Roxobel's water system consists of two deep wells which supply a combined yield of 300 gallons per minute (GPM). Also, there is a 75,000 gallon elevated storage tank and a distribution network with fire hydrants.

The water system is adequate to meet Roxobel's anticipated demands. It poses no constraints on development.

Presently, Roxobel utilizes individual on-site disposal systems for wastewater disposal. Soils in this area are generally suitable for the use of spetic tanks and absorption fields. With the present and future population declining, the town should continue to utilize septic tanks until population trends reverse or industrial development warrant otherwise.

ESTIMATED FUTURE DEMAND

Population

Roxobel is projected to continue losing population. As Table 2 shows, the town will experience a 14 percent population change between 1970 and 2000. However, one must remain aware of the fact that projections are only predictions based on many variables. A change in the economy of the area would affect the projections in Table 2.

TABLE 2
PROJECTED POPULATION
ROXOBEL TOWNSHIP, ROXOBEL, AND BERTIE COUNTY
1970-2000

	1970	1980	1990	2000
Roxobel	347	309	302	299
Roxobel Township	1871	1830	1790	1770
Bertie County	20,528	20,880	21,110	21,700

SOURCE: Region Q, Water Resources Management Plan; Township projections by N. C. Department of Natural and Economic Resources.

As of 1970, Roxobel has a Black population of 31.1 percent and an average household size of 3.5 people.

ECONOMY

Roxobel is largely a residential community with residents commuting to work. There is one industry in Roxobel which has an employment range of 50-99.

The only businesses in town are service-related such as general stores, service stations, a bank, grocery stores, etc. Future economic development is essential to the area to reverse past trends of out-migration.

GOVERNMENT

Roxobel is governed by a Mayor-Commissioner form of government. The town has no full-time employees. Police protection is provided by one part-time policeman and fire protection provided by 21 volunteers.

EXISTING LAND USE

Roxobel is primarily an agricultural-residential community. Commercial development is spotted along N. C. Highway 308. These supporting services are characterized as low density activities and pose no problem of conflicting land uses.

CONSTRAINTS ON DEVELOPMENT

Constraints on development usually fall within the broad categories of land potential and capacity of community facilities. The constraints listed should be reviewed in terms of economic feasibility since modern technology places constraints on money rather than land.

ECONOMY

There are no indications that Roxobel's service related economy will change. A decline in the area's population possibly will curtail the current level of service.

Roxobel has one industry. An additional industrial site has been identified. It is in close proximity to N. C. 308 and Seaboard Coast Line.

However, this is not to assume that development will occur, but rather the limited industrial incentive does exist in Roxobel.

Future Land Needs

If Roxobel were able to reverse its population loss, it should concentrate on developing land within the existing service areas of the town. Such action would allow the town to realize the greatest return on the investment already made in the water system and would minimize the cost of providing future services.

This policy of continuing growth within the existing town boundaries has resulted in the town being classified Transitional in the county land use plan.

Community Facilities Demand

If the community maintains its present population or declines in population, the present water system and reliance upon on-site disposal of wastewater is adequate. However, in the event of industrial development and/or population increase Roxobel will probably require a wastewater treatment system.

LAND USE ISSUES

In summary, the land use issues facing Roxobel are:

1) Continuing population loss;

2) Lack of a strong economic base;

3) A high proportion of elderly population.

IMPLEMENTATION

If Roxobel is to retain the desirable characteristics of the community and address the land use issues outlined above, it must:

1) Form a planning board to advise local officials on development issues;

2) Make a decision on whether the town will attempt to attract industry, or face a continuing loss of population; and

3) Develop an economic development program.

The town's local development association should coordinate their efforts with county and regional agencies in order to explore all possible means of economic development.

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